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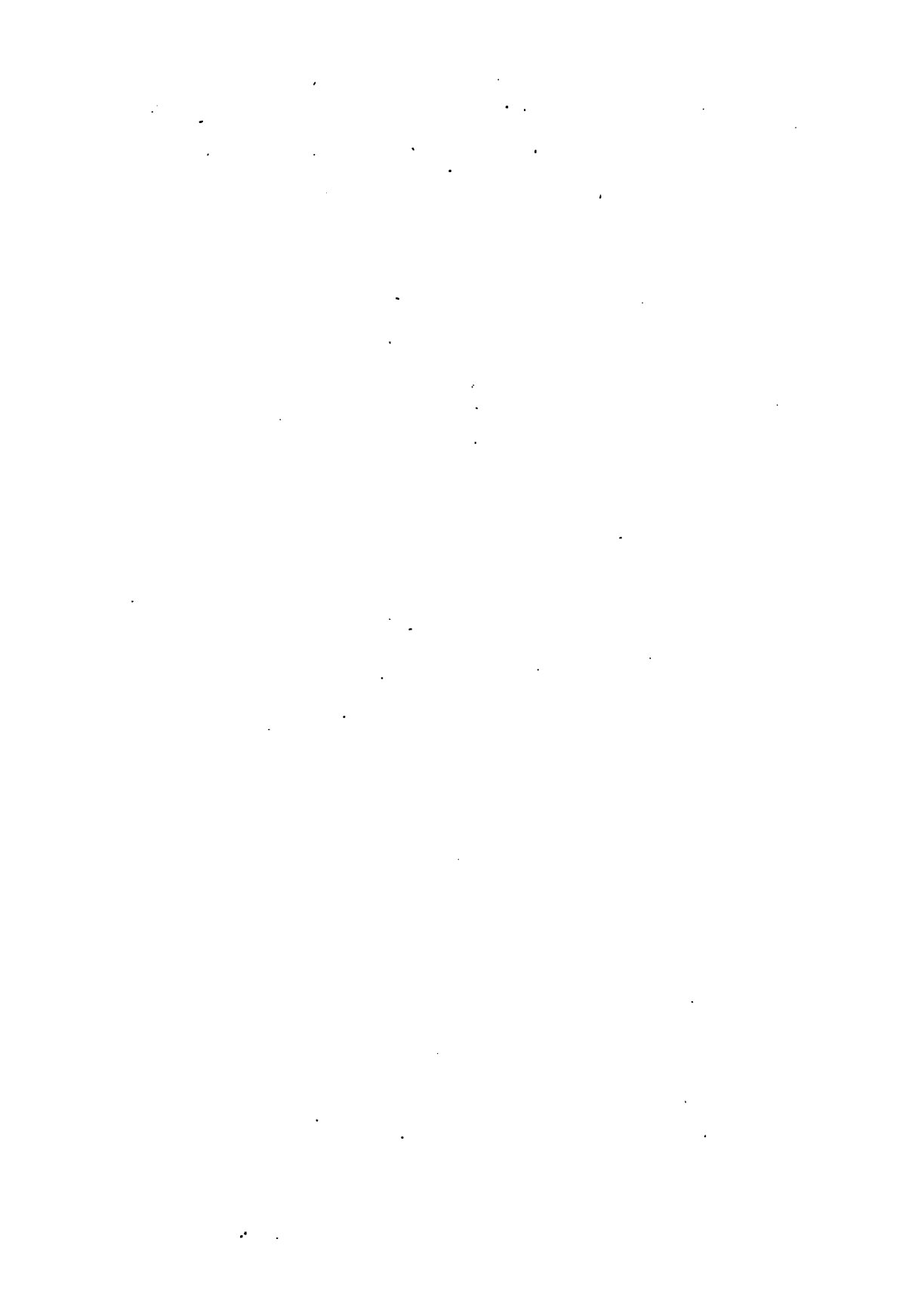




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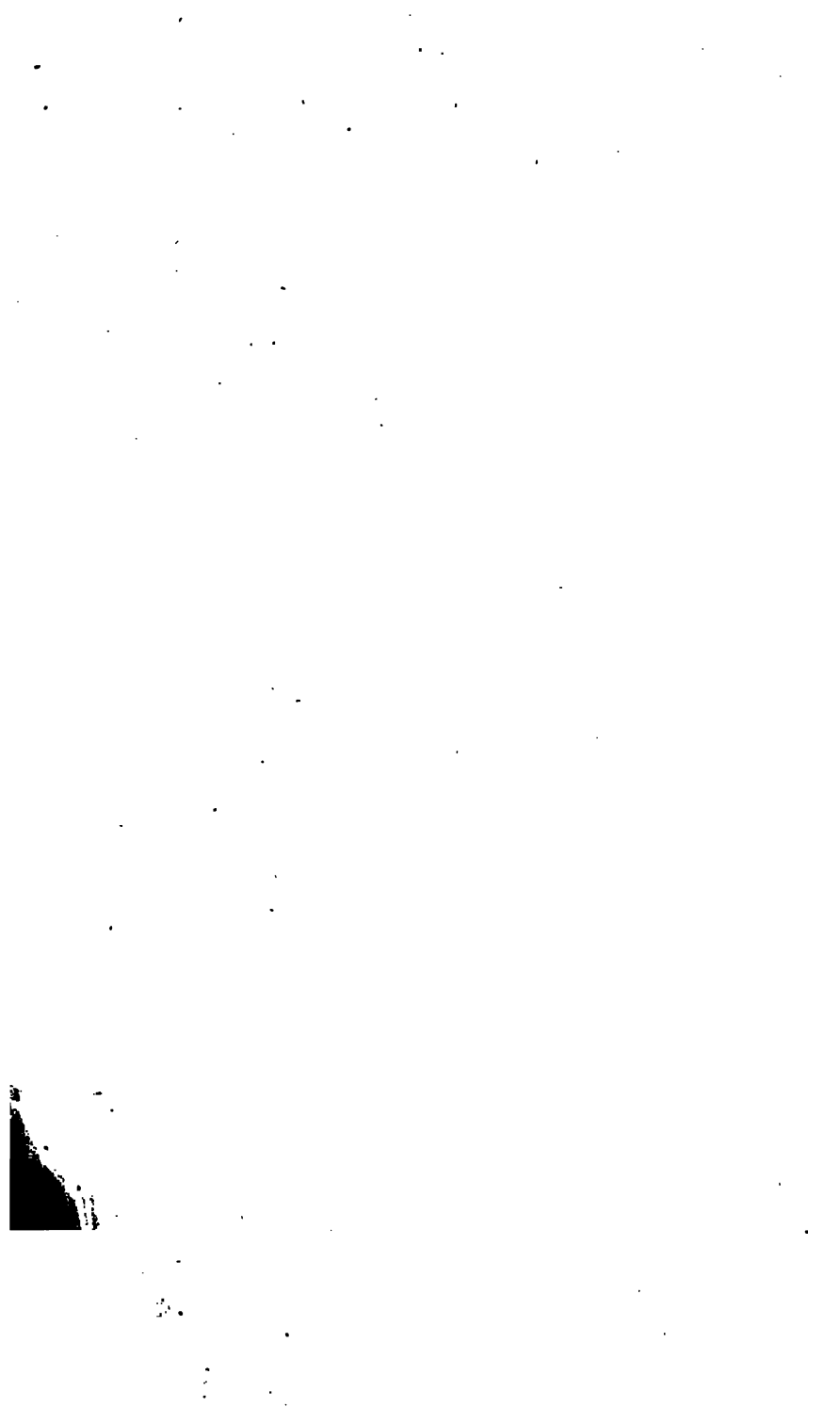


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1831
HENRY PESTALOZZI,

AND

HIS PLAN OF EDUCATION;

BEING AN ACCOUNT

OF

HIS LIFE AND WRITINGS;

WITH COPIOUS EXTRACTS FROM HIS WORKS,

AND

EXTENSIVE DETAILS ILLUSTRATIVE OF

THE PRACTICAL PARTS OF HIS METHOD.

BY E. BIBER, PH. DR.

Sine irâ et studio, quorum causas procul habeo.
TACITUS.

LONDON:

JOHN SOUTER, SCHOOL LIBRARY,

73, ST. PAUL'S CHURCH YARD.

1831.

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tion of some particular party or other to the subject, they modified the ideas which they had to set forth, so as to render them palatable to the intended readers, and, as a necessary consequence, the features of the original were proportionately distorted.

The regret with which the Author of this Memoir has for several years past witnessed the misapprehensions in theory, and mistakes in practice, to which this state of things naturally gave rise, induced him to comply with the invitation of some friends, who requested him to furnish the public with a translation of the account which Pestalozzi himself gave of his experiments, in a series of letters, published under the title, "How Gertrude Teaches her Little Ones." Perceiving, however, that a mere translation of that work could not, especially in so confused a state of public opinion, clear up the matter, he resolved to embody the most interesting and most practical parts of those letters in a larger work, which should contain an authentic history of Pestalozzi's life, and his different establishments, as well as a critical review of his various literary productions, and a tangible outline of the method to be pursued, according to his principles, in the different branches of instruction.

The result of this reformed plan is the Volume now presented to the public. The facts stated in the biographical part are derived from the best sources of information; the author having been called upon, when abroad, not only to

take cognizance of all those which had received publicity, but also to examine a great number of private documents connected with the history of Pestalozzi. As regards the account of his method, the author has thought it right to enlarge the materials which the writings of Pestalozzi and his school supplied, by the results of his own study and experience upon the subject, in order to render the work as useful as possible to parents and teachers who desire to be assisted in the application of principles, the practicability of which is far more frequently questioned than their intrinsic excellency.

Having given this short explanation of the origin of the work, and of the changes which it has undergone since its first announcement, the author is satisfied to let the value of his labours be determined by the test of practice; provided always, that he shall stand committed only to the experiments of such as are duly qualified.

London: May 1831.

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HENRY PESTALOZZI

AND

HIS PLAN OF EDUCATION.

CHAPTER I.

*Childhood — Professional Studies — Change of Views —
Farming Establishment — Marriage.*

HENRY PESTALOZZI, or as his name originally ran, JOHN HENRY PESTALUTZ,* was born at Zurich, in the German part of Switzerland, on the 12th of January, 1745. The family from which he was descended, belonged to the "*honoratières*," i. e. the gentry of his native town. From his earliest age he shared the fate of most men of genius, in being deprived of those advantages of fortune which, while they seem essential to the success of common minds, are easily dispensed with by those whom nature has enriched with her choicest gifts. By the premature death of his father, an able physician, whose ignorance of the insinuating arts of life is attested both by the reputation which he left behind him, and the mediocrity of his finances, poor Henry was made an orphan

* *Pestalutz* is the German Swiss corruption of the Italian family name of his ancestors, who are said to have sought refuge in Switzerland, with many others, during the persecutions to which the first dawn of the Reformation gave rise in their native country. There are still several families at Zurich, no doubt of the same descent, who bear the name of Pestalutz, while the subject of this volume preferred the more classic original *Pestalozzi*. The omission of John is agreeable to German custom, according to which generally only one, and that the last, of the baptismal names is kept in use.

at that very period of childhood, when the influence of a father becomes so essential to give nerve to a boy's education. The widow, though reduced to very limited means, was yet not unsupported in the discharge of the arduous task which had devolved upon her. The advice and interest of the more prosperous branches of the Pestalutz family relieved her desolate condition, and ensured to the growing youth those facilities for entering upon an honourable career, which in the small aristocracies of Switzerland are almost entirely dependant on parentage and connexions. A more immediate benefit was derived by Henry from the fostering care of one of those faithful servants of good old patriarchal style, whose character is known in our times as a matter of romance rather than of experience. To defend the gentility of the widow's household against the contempt which fortune seemed willing to throw upon it, was Barbara's great ambition, the motive of indefatigable activity in her service; and to see "young master" grow up, to assume in society the rank which his father had held in it, and of which the external evidences were carefully kept up in the interval of his minority, was the object of her tender solicitude and of her anxious hope. Thus were the piety and affection of a mother combined with the generous attachment of a servant, to watch over the early years of a man destined by Providence to vindicate the importance, and ensure the efficacy, of maternal influence, and to stand up as the warm friend and powerful advocate of the lower orders. The experience of his own heart, traced back beyond the period of self-consciousness or distinct recollection, taught him that the mother's law is, indeed, "an ornament of grace" to the head of the child, and "a chain about his neck;" whilst the disinterested attentions he received from one whom the caprice of rank had placed below his level in society, imposed upon him a debt of gratitude, of which he nobly acquitted himself by vindicating for the neglected classes those moral and intellectual rights, of which they have been despoiled by the ignorant pride of their fellow men.

The comparative obscurity into which his mother's circumstances obliged her to retire, has deprived us, no doubt, of many a characteristic trait of his boyhood; so, at least, we may conclude from the fact, that the genius which escaped the notice of his masters, was quaintly acknowledged by his more discriminating companions in the nickname of *Harry Oddity*. The influence which he enjoyed at home, operated powerfully upon the growth of his feelings, and in the absence of an equally efficacious cultivation of his intellect, gave to his character that intense energy, uncontrolled by clearness of judgment, which, while it prepared for him many a grievous disappointment in the long course of his philanthropic career, gave also to his soul that unabated elasticity which caused him to rise, after every downfall, with renovated strength. In the unripe years of boyhood these indications of future greatness lay concealed under the appearance of a gentle and almost feminine disposition, which made him, among his school-fellows, at once the object of general affection, and the unvindictive butt of their heedless sports. The dull routine of a grammar-school was not calculated to rouse him from the reveries in which his active imagination indulged; and the world could have but few attractions for the mind of a boy, who was shut out by town-life from the enjoyments of nature, and by poverty from those of the town. In the bustling games, in the eager pursuits of school-boys, he seldom joined; his taste would have kept him back, even if he had not been excluded from them by a certain slowness and want of dexterity, which was the natural consequence of the turn which his mind had taken. Yet he was not one of those sour and selfish characters, who, unable to feel happiness themselves, hate to witness that of others; he was frank, kindhearted, and always ready to oblige. His seclusion was not one of moroseness, but of indifference; and therefore, while he had not even a wish to participate in what gave his companions the greatest delight, he was often and easily induced to take upon himself the burdens which they were unwilling to bear. So when, by the terrible earthquake

of 1755, the shock of which was severely felt in several parts of Switzerland, the school-house was shaken, and, as Pestalozzi himself relates, the teachers ran down stairs "almost over the heads of their boys;" after the first terror had subsided, all wishing for the books, hats, and other property which they had left behind, but being afraid to enter the building, *Harry Oddity* was the person employed on the perilous adventure.

Of a boy of this disposition it was not to be expected that he would evince any decided taste or predilection, while kept under the bondage of rigorous discipline and of uninteresting lesson tasks. But when he arrived at the age at which, according to the custom of his native town, he left the inferior schools and entered those more liberal institutions in which the *patricii Turicenses* are prepared for the learned professions, his mind, under the stimulating influence of emancipation, began to unfold its latent energies. Taste as well as talent inclined him to the study of languages; and philological attainments being then, as they still are, the indispensable condition of the pursuit of any professional career, his gifts and likings seemed, so far, in happy accordance with the wishes of his relatives, who had destined him for the ministry, as the most direct way for a youth of good extraction to obtain, though not a fat living, a thing unknown in the church founded by Zwingli, at least a regular income, and a respectable station in society. The straitness of his circumstances and the rank held by his family were not, however, his only qualifications for an office which, if it were undertaken and administered in the spirit in which it was instituted, would exclude every, even the slightest, admixture of earthly motives. His heart, early initiated in the feelings as well as the doctrines of religion, under the most efficient and most sacred of all human priesthoods, that of maternal love, was glowing with that unaffected piety, which, while it shrinks from the profaning eye of vulgar publicity, expands itself, unseen to the world, in speechless adoration before Him who "knoweth the mind of the spirit." The childlike sim-

plicity of his own being inspired him with extreme fondness for children, and in frequent intercourse with them, he cultivated that deeper wisdom which schools cannot impart nor books record. But soft and pliable as his character was in some respects, there had grown up in his soul a strong and unbending love of justice, which, combined with his tender sympathy for the weak and suffering, rendered him eminently fit to preach good tidings to the meek, to bind up the broken-hearted, to comfort the mourning, and to speak a word in season to the weary. In short, he had all those qualities which constitute, not the Priest or the Levite, but the good Samaritan.

With this picture of Henry's character before us, it seems a matter of astonishment that he should have abandoned a calling, for which he seemed in every respect so eminently calculated. Such, however, was the case. His first appearance in the pulpit, as a candidate, was the occasion of his renouncing all his aspirations to holy orders. When it is considered that Pestalozzi gave in after-life abundant proofs of eloquence, it is difficult to attribute to a want of that gift this change of his career. It seems more easy to conceive that he who was ever ready to raise his voice in defending the oppressed, and pleading for the fatherless, should not feel the same springs of inspiration within him, when endeavouring to dash off a probationary sermon; and an instinctive perception of the nature of the impediment might well determine a youth, intimidated by his first failure, not to expose himself to a second.

Having turned his back upon divinity, he now applied himself to the law; but although he had embraced another profession, the tendency of his mind remained the same. Instead, therefore, of reading the Pandects *de servitute stillicidii*, he embarked in speculations on the best form of government. That these were not of the utilitarian cast, is clear from an essay on the Constitution of Sparta and a translation of some of the Orations of Demosthenes, which he published at that period, and which, while they show the

turn his studies had taken, attest at the same time his assiduity in research, and his proficiency in classical learning. Such indications of a loftier pursuit of knowledge than that which is founded upon the prospect of future fees, well became the pupil of a Bodmer and a Breitingcr; and the promising youth could not fail to meet with encouragement in an age, in which he had for contemporaries a Lavater and Iselin, the Eschers, Hirzels, Wattenwyls, Grafenrieds, and others, with whose names the student of Swiss history associates that hopeful dawn of a second Reformation, which, by the effects of the French Revolution upon the Alpine republics, ended in a cloud of bloody red. The further Pestalozzi advanced in his inquiries, and the more he put the state of things, as it then was in his native country, to the test of those principles of justice and freedom which he had learned to admire, the more was he struck with the contrast between the professed purpose of society, and the state into which it was actually brought by false and inappropriate means. He saw that the education of judges and public officers was no more in accordance with the claims of justice and of civil liberty, than that of ministers with the spirit of the gospel; he saw the worship of God and the welfare of mankind prostituted to selfish and unholy purposes; and on the other hand he saw, as the inevitable effect of such corruption on the part of the rulers and teachers, the people at large unfitted for the duties of this world, as well as for the claims of the world to come, by the instruction which they received both at school and in practical life. The results of his meditations on this subject he embodied in an essay on the bearing which education ought to have upon our respective callings, published by him while a student at law.

It was about this time that Rousseau's "Emile" fell into his hands; and certainly, if there had been any doubts left in Pestalozzi's mind as to the correctness of his own views, the misanthropic eloquence of that work was calculated to destroy them all, and to confirm and nourish in him that deep dislike which he had conceived against the present

condition of society, as utterly inconsistent with the claims and dictates of nature. At the same time, while the evil was presented to his view in the most glaring colours, the philosophy of Jean Jacques, founded in its very essence upon the principle of self, did not by any means supply him with an adequate remedy, nor even point out the source from which it might be derived. It set him right so far, as it strengthened in him the conviction, that the darkness in which he had grown up, was not light; but it left him in that darkness, without one ray to illumine his eyes, or to shed clearness upon his path. The consequence could be no other than that his mind, which had before been agitated and distracted, was brought to the highest degree of ferment. His constitution, already impaired by excessive application, want of exercise, and deprivation of sleep, gave way, at length, under the effect of the mighty struggle in which his soul was engaged, and a dangerous illness put a stop to his ardent researches. But although it prevented him from poring over his volumes, it could not arrest the busy train of his thoughts. Stretched upon the bed of sickness, he continued to indulge himself in his dark musings; and the idea of his own plans and projects in life being closely interwoven with the notions he entertained of the state of society, the future presented to him an aspect which, the longer he viewed it, the more it appeared enveloped in gloom. The fortitude of his soul, however, and the physical energy of youth, bore up against the disease both of mind and body, and his sufferings ended in the resolution, on his part, to abandon himself entirely to the education of Providence, setting aside all human considerations. He vowed he would allow himself no longer to be distracted by a painful clashing between his theory and his practice. By acting up to the full extent of his notions, he hoped to give himself the inestimable opportunity of putting his views to the test of life. He would not be tried by the systems of men, but by the hand of God.

The first result of this determination was, that immedi-

ately after his convalescence he committed all his papers to the flames. A number of scraps on various topics connected with the study of law and politics, and extensive extracts on the history of Switzerland, compiled with reference to the same subject, perished in this *auto de fẽ* upon labours which had led him to so unsatisfactory a conclusion. The bewildering influence of books he shunned, henceforth, as the Nazarite did wine and strong drink; and although this antipathy was somewhat softened in after-life, yet he could never quite reconcile his mind to the records of history and the stores of literature. He had felt, that most of the ills into which society was plunged, had their origin in a strange departure from what appeared to him the straight and simple path of nature; and to the school of nature, therefore, he resolved to go.

Abandoning all his former prospects and pursuits, he left Zurich, and went to Kirchberg, in the canton of Berne, where he apprenticed himself to a farmer of the name of Tschiffeli, who enjoyed a great reputation at that time, not only for his superiority in rural economy, but also for the warm interest he took in the improvement of the agricultural classes. Here a new sphere was opened to him; instead of the lecture room he now frequented the stable; the sedentary engagements of the study were exchanged for constant exercise in the open air. Occasionally he set his hand to the plough and the spade; and whilst he had returned to the primitive employment of man, "to till the ground from which he is taken," he was meditating on the best manner of making this simplest of all callings the means of mental and moral improvement. The health and bodily strength which he acquired in this new mode of living, braced his weak and irritated nerves; and his removal from the scene of artificial life enabled him to regain that peace of mind, of which his first conflict with the world had deprived him. That harmless tranquillity, that unconscious security of feeling, which characterizes childhood, increases in proportion as man approaches a patriarchal state of society, and diminishes in pro-

portion as he is more involved in the complicated workings of the social machine. Pestalozzi had, as a boy, possessed that childlike simplicity in an eminent degree, and now, in the intercourse with nature and with men of primitive habits, he recovered it so fully, that whenever in after-life he alluded to the studies of his earlier years, he spoke of them in a manner, as if they were so many recollections of a previous state, altogether unconnected with his present existence.

After he had, under the direction of Tschiffeli, qualified himself for the conduct of a rural establishment, he employed the small patrimony which his father had left him, in the purchase of a tract of waste land in the neighbourhood of Lenzburg, in the canton of Berne, on which he erected a dwelling-house with the necessary outbuildings, and gave it the name of Neuhof, that is, the New farm. With all the energy and the sanguine anticipations of a young man of twenty-two years, he now applied himself to the cultivation of his estate, which indeed, to deserve that name, required years of persevering labour. But his courage, borne out by the vigor of youth, conquered all difficulties; the work of his hands prospered, and he soon saw his new creation in a flourishing condition, and his prospects as easy and cheerful as he could well have wished. At this bright epoch of his life, when all his good stars seemed to have met in a happy constellation, he sought and obtained the hand of Anne Schulthess, a young woman on whom nature and education had vied in bestowing their accomplishments. Greater praise, however, than to the gifts which adorned her, is due to the elevation of character which she evinced in uniting herself to a man, in whom there was, indeed, nothing to love but the kindness of his disposition and his warm zeal in the cause of humanity. His eccentricity had at that time already gained him the shoulder-shrugging compassion of the wiseacres among his fellow-citizens; his personal appearance was far from attractive, and his establishment at Neuhof, whatever value it might have had for himself, could never be worth the consideration of the daughter of one of

the wealthiest merchants at Zurich. The woman that gave him her hand, set at defiance the voice of public opinion, the tastes of her sex, and all considerations of worldly interest; and, by this triumph of love over the meaner feelings of human nature, she proved herself worthy to share the affections and the destinies of a man, whom God had chosen to raise the voice of reform in his generation.

This marriage, while it gave more reality to the image which Pestalozzi had made to himself of his domestic circle, offered him a new sphere of useful exertion, by putting him in possession of a share in a flourishing cotton manufactory. As might be expected, he took an active part in the conduct of it, with a view not only to acquire a knowledge of this branch of national industry, which had been recently introduced in Switzerland, but also to become acquainted with the character of the manufacturing classes, and to compare the influence of their occupation with that of agriculture, upon the minds and morals of the people. The result of his observations brought him back to the conclusion, that the then prevailing system of popular education was not by any means calculated to fit mankind for the discharge of their duties in after-life, and the attainment of a tranquil and happy existence. The effect which this conviction produced upon him, was, however, very different now from what it had been, when he had gathered it from conflicting theories. The school of life, it is true, had shown him the same evils, but it had also taught him, what his books never could teach him, to find and to apply a remedy. Hence it was that the same views, which had once plunged him into a state of gloom approaching to misanthropy, now aroused his soul to courageous exertion, and kindled in him a zeal and energy, for which no sacrifice was too great, no difficulty too appalling.

CHAPTER II.

Orphan School — Its Difficulties and Failure — The French Revolution — Lessons taught by it — Writings of this period — Plans of National Improvement — Stantz.

EIGHT years of assiduous labour had brought the Neuhof into a prosperous state of cultivation, when Pestalozzi resolved to make the experiment, how far it might be possible, by education, to raise the lower orders to a condition more consistent with a Christian state of society. To secure himself against extraneous influence, which might be at variance with his own views and plans, and to enhance the value of the results which he hoped to obtain, he selected the objects of his care from the very dregs of the people. Wherever he knew a child that was bereaved, or one whom the beggary or vagrancy of his parents rendered in another sense fatherless, he took him into his house; and, in a short time, his establishment was converted into an asylum in which fifty orphan or pauper children were provided with food, clothing, and instruction. He was deeply convinced that pauperism and vice, so far from being counteracted by extensive relief funds and strict police measures, received, on the contrary, an additional stimulus and new nourishment from institutions founded upon the supposition that these evils are necessary, and that all the state can do is to bring them within the bounds and forms of a regular system. He felt that the improvement of the lower orders required an internal stimulus to be awakened in their own breast; that no correction would make them good, and no support happy, unless there were a determination on their part to be good and happy. He saw, moreover, that even such a determination could be of no avail, unless they had it in their power to rise from the low condition to which they had sunk; and he turned, therefore, towards education

with a view not only to give them that mental and moral cultivation, which he expected would produce in them a tendency to good, but also to lead them to acquire those practical abilities and industrious habits, by which they would be enabled to keep themselves in a situation favorable to their improvement. His object was to show, not how the state might provide for the poor and correct them, but how it might enable the poor to provide for and correct themselves. He wanted to establish the fact, that by taking the evil at the root, an easy and infallible remedy was at hand: he wanted, moreover, to gain for himself that practical knowledge of the means to be employed for the attainment of his purpose, which at the hand of experience alone he could hope to find. His views were by no means confined to the establishment of a private charity; his ulterior object was to effect a reform in the popular education of his country. He knew that it would be vain for him, at that time, to urge the subject upon the attention of the Swiss governments, and he wished, therefore, both to qualify himself better for the task of advocating it, and to procure such evidence in support of his arguments, as it would be impossible either to confute or to resist.

The purpose of his undertaking was essentially national, and he endeavoured, accordingly, to combine in it, as far as possible, the chief branches of national industry. The children whom he had rescued from the most abject poverty, were initiated in his establishment in the different employments of domestic and rural economy, and from the cotton manufactory in which he was a partner, he procured sufficient work to make them acquainted likewise with this sort of labour, and to keep up industrious habits at those seasons of the year in which agricultural pursuits are necessarily suspended. But he did not imagine, as some have done, that the mechanical acquirement of certain abilities and habits would of itself tend to improve the circumstances of his pupils in after-life; much less did he expect that an amendment of circumstances would better their moral condi-

tion. He was aware that all these were only subordinate means, the efficacy of which in producing the desired effect would entirely depend on the simultaneous employment of means of a higher cast. This fact was, indeed, historically established before his eyes, though few men were, like himself, clear sighted enough to perceive it. The resources of Switzerland had been considerably augmented, its industry and its wealth had risen to a degree unparalleled at any former period, and yet the people, so far from showing any symptoms of improvement, were, on the contrary, sinking lower and lower every day. While the rulers of the land and the teachers of the people were buried in deep slumber, amusing themselves with vain dreams of the approaching return of a golden age, Pestalozzi, who lived among the people, and sought their acquaintance with eager benevolence, saw the degradation to which they were fast descending, and he resolved, as far as in him lay, to stem the torrent by endeavouring to place national education upon a more internal and more solid basis. He wished to purify the affections, which he saw depraved into low propensities; to substitute intelligence and true knowledge in the place of cunning and ignorant routine; and to restore to the word of faith, which had been perverted into a dead creed, its original influence upon mankind, by receiving the child, not only as a child of man, but also as a child of God, destined to be restored to the image of divine perfection.

Such was his generous intention; but, unfortunately, his means were, in almost every respect, inadequate to the magnitude of the object he had in view. The most important qualification required on his part, was an accurate and comprehensive knowledge of human nature, and of the laws by which it is governed, both in its internal development, and in its intercourse with the world. Of this knowledge, however, he was almost entirely destitute. He had, no doubt, acquired a deep insight into the workings of his own mind, in consequence of the freedom and decision with which he had, at every period of his life, acted up to his

convictions; he had, moreover, had ample opportunities of watching the train of thoughts and feelings by which the lower orders become a prey to ignorance, prejudice, and vice; he had observed most of the evils by which human nature is beset, and traced many of them to their source; but, with all this experience, he was quite a novice in the difficult art of fostering the growth of the young mind, and modifying the influences of the surrounding world, and especially of human society, so that they should bear upon it with all the power of truth and love. His career had hitherto been essentially one of opposition against the existing state of things, and against the systems by which that state was upheld; and he now embarked in an undertaking, in which a merely negative wisdom, teaching how things ought not to be, was in nowise sufficient. His establishment required organization; that organization required positive principles; but positive principles were exactly what Pestalozzi did not possess.

Considering that he was himself conscious of this deficiency, the reception of so many children into his house for the purpose of giving them a suitable education, was one of the boldest undertakings in the annals of private life. He was prompted to it by the mighty impulses of faith and love: faith, that God, whose will it is that man should be raised from the degradation to which he has sunk, would enable him to trace the means deposited for that purpose in the mind and heart of the child; and love, which was ready to sacrifice all the comforts and enjoyments of affluence, in order to rescue the poor from their wretched condition. It was that faith in the self-evidence of the divine purpose in human nature, that enabled him to dispense altogether with those "beggarly elements" of education, with which one generation after the other has been nursed up to a crippled and sickly existence, and to strike out for himself an entirely new road, which would lead him more directly and more securely to the end. And it was that tender sympathy for the sufferings of his fellow-creatures, that benevo-

lent zeal for the promotion of their welfare, which enabled him to continue his establishment at NeuhoF for the space of fifteen years, in spite of all the difficulties with which he had to struggle, and the extreme distress to which he was at last reduced, in consequence of the disproportion between the extent of his undertaking and the limited pecuniary means that were at his command.

When Pestalozzi first ventured upon the experiment, he was not aware of its ruinous tendency. His knowledge of economical concerns was founded chiefly upon the experience which he had acquired in bringing his farm into a state of cultivation, and which was of the most encouraging nature. His acquaintance with the manufacturing department was more superficial, yet, apparently, sufficient to enable him to include that line of industry in his plan. He calculated that the expense incurred by the support of so large a number would, in a great measure, be covered by the produce of their own labour; but experience taught him, that the waste of material in manufacture, and the diminution of harvest, occasioned by an inferior cultivation of the soil, swallowed up nearly the whole amount of that produce, so that the weight of the increased consumption fell almost entirely upon the original resources of the establishment. A variety of other obstacles, arising out of the nature of the undertaking, and the peculiar turn of his own mind, concurred to impede his success and, ultimately, to defeat his plan. The mixture of agricultural and manufacturing labour, of domestic economy and commercial operations, had the effect of bringing confusion into every part, and concealing from his view the real state of his circumstances. His thoughts were, of course, chiefly directed towards the moral object of his institution; the inquiry into the best method of communicating instruction and developing the mental powers as well as the affections, necessarily diverted his mind from mere matters of business, and prevented him from acquiring those habits of strict attention to the minute details of economy, in the full possession of which the conduct of so

complicated an undertaking as his, would still have proved an arduous and perhaps unsuccessful task. To combine in one and the same person the offices of manager, school-master, farmer, manufacturer, and merchant, was beyond the reach of a man, whose energy of feeling carried him on with irresistible power in the pursuit of one great object, and would not allow him to stoop and measure every inch of ground over which he had to go.

On the other hand the prospect of a failure, which presented itself at a distance almost from the very beginning, and which became with every year nearer and more certain, deprived Pestalozzi of that calmness and serenity of temper, which was so essentially necessary, not only to the financial, but also to the moral success of his institution. The agitation of his mind was consequently kept up by a variety of vexatious and distressing incidents, till, at last, his disposition grew turbulent and restless. The losses entailed upon him by the inexperience of those whom he employed, and by the neglect prevailing in all parts of his establishment, affected him deeply, because they involved, as a necessary consequence, the total failure of his benevolent plans; and the consciousness which he had of the disinterestedness of his motives, rendered him unjust towards those that surrounded him, and prone to blame them for the existence of evils, which were, after all, but the inevitable result of the nature of the undertaking, and of his own inability to superintend and direct its complicated machinery. This inability, of course, increased in proportion as he abandoned himself to the violence and injustice of his feelings; and, in the same proportion, its ruinous effects became more and more visible in the state of his affairs. The more his circumstances required maturity of judgment and steadiness of action, the more inconsiderate and rash was his conduct; and *vice versâ*, the more comfort and freedom from anxiety the state of his mind rendered necessary, the more painful and distressing became his situation. The concurrence of such a number of evils, constantly reproducing each other,

compelled Pestalozzi at last, however unwillingly, to give up an experiment which had required, from the beginning, ampler means and a firmer hand than his, to conduct it to a successful issue.

But as no good seed remains without its harvest, though it should not be as rich as the sower anticipated, so likewise Pestalozzi's persevering exertions for the education of the poor were not quite fruitless. His house, it is true, was now no longer an asylum for the houseless and the fatherless: the objects of his long-continued care and attention were disbanded, and left to provide for their own support in a world in which another NeuhoF was not to be found; but the sting of this disappointment was much softened by the reflection, that upwards of an hundred children had been rescued from the destitution and the corrupting influences, of which they would otherwise have become the victims. Let those who are tempted to sneer at Pestalozzi's views, or to call their practicability in question, look at this result of the first abortive attempt of his benevolence; let them look around for another instance, in which the persevering labours of one individual, entirely unsupported by public or private assistance, have been productive of the same amount of good; and if they feel at a loss where to find it, let them respect the man who bestowed greater benefits upon mankind by his failures, than others do by their success.

The consciousness of having saved such a number of human beings from almost certain destruction, and awakened in their hearts the seeds of virtue and religion, was no small reward; and yet it was, perhaps, the least that Pestalozzi reaped from his first experiment. He had gained, what was of infinitely greater value to him, a rich store of experience, and a deeper insight than he had before possessed, into the nature of his task, as well as of the means by which it might be accomplished. In the works published during the period which elapsed from the opening of his asylum on the NeuhoF, in 1775, to its close in 1790, he has left a permanent and highly instructive record of the discoveries which he

made in the progress of his arduous undertaking. The first of them, "Leonard and Gertrude," a popular novel, though it appeared as early as 1781, was even then the result of his apprehensions for the durability of his orphan school. It was written with a view to deposit in it the knowledge he had acquired of the condition of the lower classes, and the experience he had gained in attempting their improvement; and the vivid colouring of the picture sufficiently bespeaks his familiarity with the scenes of poverty, and the warmth of his benevolent sympathy. In the hope, however, with which he had flattered himself, that it would attract the public attention to the subject of popular education, and thereby procure assistance sufficient to render his institution permanent, he was bitterly disappointed. As a novel, the book was liked universally; those who entered most into the author's meaning, said: "Indeed, if there were many mothers like Gertrude, many schoolmasters like Gluelphi, and many magistrates like Arner, the world would be in far better case!" And there the matter ended.

But Pestalozzi would not let it end there. He published in the following year, 1782, his "Second Book for the People," under the title "Christopher and Eliza." By this work which never came into the hands of the lower classes, for whom it was chiefly intended, he hoped to draw the attention of the readers of "Leonard and Gertrude" to the great object which he had there had in view, and, by familiar illustration of some of the most important topics upon which he had touched in it, to show how a variety of useful lessons might be drawn from a book, which was generally considered in no other light than that of an amusing tale. At the same time, while he thus endeavoured to bring the results of his experience home to the hearts and minds of the cottager, he made an attempt, likewise, to interest the literary world in his views on education. In a journal, published in Basel, under the direction of the celebrated philanthropist Iselin, he inserted a series of essays under the title "Evening Hours of an Hermit," which contained a more systematic account of his mode of

instruction and his plans for national improvement. But it was not, then, a time when men sought for such information as had a tendency to cure them of their vices and prejudices. The popular tendency of education ran quite in another direction. The general diffusion of reading, writing, and a sort of encyclopædic scrap-knowledge, was then the fashion, and Pestalozzi's voice, which told no wonders of electricity, no secrets of chemistry, but was ever loud on the subject of mental and moral improvement, continued, in spite of all his efforts, to be "as the voice of one crying in the wilderness."

He was somewhat more successful in giving currency to his ideas by a weekly journal, which he undertook at the beginning of 1782, under the title "*Schweizer Blatt*," i. e. "*Swiss Journal*." This curious publication, which was continued till 1783, and forms two octavo volumes, touches in a popular and interesting style upon an endless variety of topics, all, however, connected with Pestalozzi's one great object, national improvement. Some of the papers contained in it, on the punishment of infanticide, were embodied afterwards in a pamphlet which treats that question more extensively, and which went through several editions, owing to the interest excited at the time by the execution of two sisters, who were guilty of the murder of their two children, under circumstances of the most appalling nature. The public attention was aroused, and Pestalozzi was foremost among the advocates of humanity, to urge upon the legislative assemblies of Switzerland the necessity of revising the law on that subject; and he had the satisfaction of witnessing, as an effect of the measures subsequently adopted, the diminution of a crime, like which no other so strikingly exhibits the criminal in the light of one that is to be pitied rather than persecuted.

The period between 1783 and 1790, which was one of increasing difficulties and embarrassments, could not be favorable to literary composition; yet it was not wholly left without a record of the state of Pestalozzi's mind. Pre-occupied as he was by his private affairs, and the menacing

ruin of his orphan school, he was not by any means indifferent to that ferment of ideas, which, like the tremulous murmurs of the earth, preceded the volcanic explosion of the French revolution. Society was hastening on to its dissolution, though most rapidly, yet not exclusively, in France; every sound of freedom that arose between the Pyrenees and the Jura, found a ready echo in the Alps. Many parts of Switzerland were sighing under a tyranny not less vexatious, because conducted on a smaller scale; and every attempt on the part of the oppressed to ease their yoke was, as in France, resisted with the greater obstinacy and violence, the more urgently relief was wanted. In this crisis every passion of the human breast was presenting itself in its most hideous aspect; and Pestalozzi, who was gifted with a sight deeply penetrating into the hidden recesses of the heart, collected the caricatures of human nature, which the times presented to him, in a volume of fables, published under the enigmatic title, "Figures to my Spelling Book." By these fables, and the general tendency of his political opinions, which leaned towards democracy, he made no friends among the aristocrats of Switzerland who were, then, almost exclusively in possession of power: and the ill odour in which he was held by them as an advocate of reform, and a favorer of radical opinions, had, no doubt, its share in frustrating his hope that, by the assistance of some of the Swiss governments, he might be enabled to carry on an establishment, to the maintenance of which his private resources became every day more inadequate.

After the breaking up of that institution, we find Pestalozzi in a condition truly deplorable. Dunned by his creditors, reviled by his enemies, insulted by men in power, sneered at by the vulgar, treated with ingratitude by most of those whom he had served, and separated from the few that might have been grateful, destitute of all assistance, but overwhelmed with mortifying advice, cast down by a succession of misfortunes, and tormented by the consciousness of having contributed to them by his own failings, he consumed his days

in painful desolation on that same spot which he had made the dwelling-place of love and mercy, but which had now become to him an abode of anxiety and sorrow. He had deprived his wife, with her only son, of those enjoyments and advantages to which her education and circumstances had given her a claim; and he had not even to offer her, in compensation, the tranquil comforts of retirement. He was rivetted with his family to a ruined and disordered economy, which, at every step, brought painful recollections and anxious prospects before his mind.

Of the cause which lay nearest to his heart, he durst not speak, even in a whisper; a sarcastic hint as to the success of his undertaking would have been the answer. He was obliged to conceal from mankind the love he bore them, and to take it for tender compassion on their part, if they considered him no worse than a lunatic. Such a position was well calculated to plant the seed of misanthropy in a heart like Pestalozzi's, which could ill endure the chilling influence of that cold selfishness with which the world is wont to repel whatever has a tendency to limit the enjoyments and increase the exertions of the individual for the benefit of his fellow-creatures. The beam of cheerfulness and benevolence had stolen deeply back in his eye, sullen gloom hung over his brow, and his whole appearance indicated a man, whose sorrows meditation could not soothe, nor oblivion dispel. In this state he lingered, when a disappointment infinitely more poignant than the failure of his private plans, aroused him from the lethargy into which he had sunk, to an investigation far deeper than any he had before instituted; an investigation which concerned not merely the temporary evils under which different classes of society laboured, and their immediate causes, but went to that root of evil in the human constitution, which causes us, both in our individual and social capacity, to stray from the higher purpose of our existence.

Ever since the first excitement produced by Rousseau's "Emile," Pestalozzi had, in his political opinions, followed that stream of popular feeling, which in France and the ad-

joining states of the European continent was fast undermining, by its subterraneous currents, the ancient bulwarks of the feudal system. He was deceived, like many others, by the fond hope that the general circulation of the ideas of liberty and independence, associated as they were with the names of all that is good and holy, indicated the dawn of a brighter era, in which men would no longer be treated as brute masses, subservient to the purposes of political cunning and ambition, but would be acknowledged, individually, as the objects whose intellectual and moral cultivation is the great end of the social compact. The horrors of the revolution in France undeceived the enthusiastic admirers of phrases, which on the lips of a chosen few in that generation were indeed the expression of generous feelings, but in the mouths of the depraved multitude were no more than signals for a free indulgence of every brutal passion, and pretexts for the accomplishment of every Satanic design. Pestalozzi had witnessed the mighty effort of humanity, to rise from the degradation of having suffered herself during centuries to be trodden in the dust; he saw her deep downfall at the moment when her triumph seemed complete; and he suspected the worm in her bosom. He hid his countenance and mourned.

In those calamitous days, when the Jacobins flung the firebrand of anarchy across the Jura, and the pure waters of the Alpine lakes were tinged with blood, Pestalozzi, forgotten by a world of which the recollection gave him pangs, wrote his "Inquiries into the Course of Nature in the Development of the Human Species." This work which was published in 1797, marks the transition to a new era in Pestalozzi's development of his own views. Hitherto he had adhered to the outward; he had mistaken the *attendant circumstances* of human happiness or misery for their *causes*. Neither the partial success which he obtained in his experiment at Neuhof, nor its ultimate failure, were calculated to undeceive him; for the former, which was owing in a great measure to a better and holier influence, which he

unconsciously exercised over his children; was attributed by him to those outward means which he had employed for the improvement of their condition; and the latter was not so much the effect of his theoretical mistakes, which were neutralized by his practice, as the result of a disproportion between the extent of the undertaking and that of his resources. But when he saw in the French revolution all those trammels removed which he had considered as the causes of human degradation, and he found the emancipated slave, instead of rising in the scale of moral worth as he had anticipated, on the contrary combining the vices of his tyrant with those of his former condition; when he saw human nature in this pretended self-regeneration more inhuman, more brutal than ever; when he saw in his own country the greater number of those who had been the zealous advocates of the rights of mankind, trampling those rights under foot, as soon as the power had passed into their hands, and substituting the violence of lawlessness and personal despotism to that of misrule and corporate monopoly; then the scales fell from his eyes. He now learned the great truth that, in the absence of all external impediments, man is even less, than under their pressure, disposed to seek his own moral and intellectual improvement; he saw that there are greater obstacles to be overcome than those created by the necessities of the earth and the fetters of social life; and his mind gradually arrived at the important conclusion that the amelioration of outward circumstances will be the effect, but never can be the means, of mental and moral improvement.

It may seem strange that a man educated in the principles of Christianity, one who cherished those principles with pious veneration, and made them the rule of his own life, should, at the age of thirty, still have had to discover a truth so essentially connected with the doctrine of the Gospel. But when it is considered how universally it has been, and still is, the tendency of education in the Christian world, to keep the revelations of God distinct as a text-book for a future existence, and a few scanty fragments of this life that are referred

to it, whilst by far the largest proportion of our present existence is devoted to objects which have no reference to the other, and made subject to a rule not only different from, but contrary to, that of Christ, it will cease to be a matter of astonishment, that, half a century ago, a Christian in name, in heart, and in practice, was in his philosophy of human life little better than a Pagan. How few are there, even in our "enlightened gospel days," who would ever have recognised in the axiom "that the amelioration of outward circumstances will be the effect, but never can be the means, of mental and moral improvement," a paraphrase of that significant injunction of the Saviour: "Seek ye first the kingdom of heaven and its righteousness, and all the other things will be added unto you." Let this be duly weighed, and let not injustice be done to the memory of a man who, though he might not himself have comprehended the full bearing of what he did, was yet the first to place mental and moral education upon that internal basis, on which alone it is possible for it to come under the influence of the power and life of Christianity. The discovery of that basis had now become the object of his eager research, and it was not long before he had an opportunity afforded him of pursuing it, on the ground of practical experience, with greater advantage and certainty, than on the field of mere speculation.

The hope that the political reform of Switzerland would of itself produce national improvement, was now gone by, and those who had the welfare of the people truly at heart, began to look out for some positive influence by which the generally awakened tendency for new things might be properly directed. The country was at this time under the government of an Assembly, constituted after the pattern of the "*Directoire Exécutif*" in France, and Pestalozzi, who was at an earlier period identified by his political feelings with the party now in power, but had been alienated from them when the cause of liberty was contaminated by excess and violence, still counted the more wise and moderate of them among his friends. The most influential of these was

Legrand, one of the "directors," who had arrived at a decided conviction that national regeneration, founded upon a better education of all, but especially of the lower classes, was the only means of turning the late changes in the social system to some permanently good account. On this subject he conferred with Pestalozzi, and they both agreed that the most powerful effect might be produced by giving to a considerable number of the poorest children such an education as would put them in possession of all the advantages of civilization, without rendering them discontented with their station in life. To educate men whose happiness should not depend on their fortunes, nor their virtue on their circumstances, free men in the true sense of the word, was indeed the way to save the cause of liberty from the shipwreck which it had suffered in the revolution. The importance of this subject was so fully impressed upon the mind of Legrand, that he, who was sometimes heartily tired of his directorship, promised his friend not to resign until he should have procured him an opportunity of realizing his views. Encouraged by the warm and affectionate support of this noble patriot, Pestalozzi laid his views officially before the government, and met with the most favorable reception from the two secretaries of state, Rengger and Stapfer, to whose departments the subject more particularly belonged. The *directoire* promised to supply him with the pecuniary means which the execution of his plan required, and he was already engaged in selecting an appropriate spot in the cantons of Zurich, or Argovie, when a dreadful event occurred, which called him to a different scene of action.

The French invasion, supported by a revolutionary party in the country itself, had, almost in an instant of time, given a new aspect to the northern, western, and eastern parts of Switzerland, where a harsh and insolent dominion of the fortified cities over the open land, and of aristocratic families over the mass of the citizens, had, during the last century, gradually loosened all the ties of society. Very different was the state of the ancient democratic cantons, situated round

the lake of Lucerne, whose inhabitants had preserved all that simplicity and vigor for which they were celebrated in the days of William Tell and Arnold Winkelried. The principle *vox populi, vox Dei*, was here upheld, not by legal fiction, but in reality. The suffrages of all its freeborn men, assembled annually, in spring, at the *Landsgemeinde*, were still the expression of the sovereign will, to whose decision all legislative measures were submitted; and the sword of authority returned after each twelvemonth into the hands of the people, in whose name it was wielded, to be committed by them to whomsoever they should think fit. Under this constitution, which of all others seems to open the widest field for ambition and contention, these pastoral tribes of primitive character had, for the lapse of three centuries, preserved a feeling of union greatly strengthened by the tie of faith; for the Reformation, which had divided the minds in all the other parts of Switzerland, had not penetrated into these mountains, and the Roman Catholic church reigned there undisturbed in the venerable simplicity of her earlier and better days. Of a people thus nursed up in the highest political freedom and the most perfect spiritual subjection, it was not to be expected that they would allow themselves willingly to be incorporated in the new "Helvetic republic," which was governed by a representative federal government invested with military power, and in which the "schismatic" doctrines of Protestant Switzerland were allied with the Deism or rather Atheism of the French Terrorists. Their dearest birthright, the right of self-representation in the sovereign assembly, and the ground of their hope in the world to come, the inviolable faith of the Catholic church, were attacked together; and the democratic cantons resisted the invasion with a resolution and perseverance which could only be equalled by their attachment to the interests which were at stake. But that spirit of centralization and "*arrondissement*" which presided in the councils of the French republic and of the new Swiss government constituted under its auspices, knew of no respect for national and religious peculiarities;

and the conflict that ensued could, therefore, be no other than a war of extermination.

The fury of this war burst in the month of September, 1798, upon the canton of Unterwalden, whose capital, Stantz, was laid in ashes by the victorious French troops; and the small number of its defenders that escaped the general slaughter, forced to seek refuge in the most impervious recesses of their mountains. After a horrible massacre, in which neither age nor sex was spared, the whole of the lower valley presented one great scene of devastation.

“Stantz—a melancholy pyre!
And her hamlets blaz’d behind,
With ten thousand tongues of fire
Writhing, raging in the wind.”

Widowed mothers with their children, families of orphans, were wandering without protection, without support, among the smoking ruins, and through the fields that were drenched with the blood of their husbands and fathers; and, instead of the herdsman’s cheerful song, the wild rocks re-echoed the voice of lamentation and of wailing. High as the heat of party ran in those days, the Helvetic government deeply and sincerely lamented the sanguinary vengeance with which their allies had visited one of the states of the ancient Swiss federation, and, by affording to the distressed inhabitants all the assistance in their power, hastened to mitigate the impression which the intelligence of the event could not fail to produce throughout the whole land. The most active measures were taken to rebuild the destroyed dwellings; the scattered remnants of the population invited back under the most solemn assurances of security, and supplied with provisions. This was the scene which the government proposed to Pestalozzi for the first experiment of his plan of national education.

CHAPTER III.

*The Ursuline Convent—First Difficulties Conquered—An Interesting Family—Hints for Practical Instruction—
Blossoms and Fruits.*

REGARDLESS, though not ignorant, of the incalculable difficulties that awaited him, he followed the call of humanity, and leaving his family behind him, proceeded to Stantz. The new convent of the Ursulines, which was in progress of building, was assigned to him for the formation of an asylum for orphans and other destitute children; and ample funds were provided for making the necessary arrangements. But in a country which war had converted into a desert, it was not easy, even with an abundance of pecuniary means, to procure, without great delay, the most necessary implements of such an establishment. The only apartment that was habitable on Pestalozzi's arrival, was a room of scarcely twenty-four feet square, and this was unfurnished. The rest of the edifice was occupied by carpenters and bricklayers; but even if there had been rooms, the want of kitchen utensils and beds would have rendered them useless.

Meanwhile, upon the news being spread that such an asylum was about to be established, the children presented themselves in scores; and, as many of them were unprotected orphans, some without a place of shelter, it was not easy to turn them away. The one room which served for a school-room in the day, was at night provided with some scanty bedding and converted into a sleeping room for Pestalozzi and as many of his pupils as it would hold. The rest were quartered out for the night in some of the surrounding houses, and came to the asylum only in the day time. Under such circumstances it was impossible to introduce any sort of regularity, or even to maintain physical cleanliness; and disorder

being once established in the house, it was a most difficult task to check it afterwards among a number of children whose previous habits were so unfavorable to order. Diseases, and those of the very worst description, were imported from the beginning, and not easily got rid of in a house where, at first, no separation was possible; besides which, the dust occasioned by the workmen, the dampness of the newly erected walls, and the closeness of the atmosphere, arising from the numbers stowed together in a small apartment, at a season which did not allow of much airing, rendered the asylum of itself an unhealthy abode.

Considering all these circumstances, the state of the house the condition of the children, the privations and hardships to which Pestalozzi was exposed, and the exertions which he was obliged to make, there seems to be no exaggeration in the description which he himself gives of this experiment as of a desperate undertaking. Indeed, even after the first impediments were removed, its success must have been very problematical. The constitutions of the children were impaired, their minds hardened, and their characters degraded by the course of life which they had been obliged to lead since the disaster. Some of them were the offspring of beggars and outlaws, whom not the national calamity, but the vicious courses of their parents, had reduced to the extreme of wretchedness, and who were inured to falsehood and impudence from their earliest childhood. Others, who had seen better days, were crushed under the weight of their sufferings, shy and indolent. A few of them, whose parents had belonged to the higher classes of society, were spoiled children, accustomed formerly to all sorts of enjoyment and indulgence; they were full of pretensions and discontent, depressed but not humbled by their misfortunes, envious of each other, and scornful towards their more lowly companions. The only thing which they had all in common was the physical, intellectual, and moral neglect to which they had been exposed, and which rendered them all equally

fit objects of the most unremitting care, and the most simple and patient instruction.

The whole of this burden devolved upon Pestalozzi, who from a wish to economize his funds, in order to extend the benefit of the institution to the greatest possible number of children, and from the impossibility of meeting with teachers whose views were at all analagous to his own, provided no other assistance than that of a housekeeper. The task was not in itself an easy one, but it was rendered still more difficult by the interference of the parents, whose general feeling of dislike and distrust against Pestalozzi as a protestant, and an agent of the Helvetic government, rendered them the more disposed to indulge in those whims and caprices by which teachers of all classes are so frequently impeded in the discharge of their duties, but most of all those who have no other interests to serve than those of their pupils. Mothers who supported themselves by open beggary from door to door, would, upon visiting the establishment, find some cause of discontent, and take their children away, because "they would be no worse off at home." Upon Sundays especially, the fathers, mothers, sisters, brothers, aunts, cousins, and other relations of various degrees, made their appearance, and taking the children apart in some corner of the house, or in the street, elicited complaints of every kind, and either took the children with them, or left them discontented and peevish. Many were brought to the asylum with no other intention than to have them clothed, which being done, they were removed at the first opportunity, and often without an ostensible reason. Others required to be paid for leaving their children, to compensate for the diminished produce of their beggary. Others again wanted to make a regular bargain, for how many days in the week they should have a right to take them out on begging errands; and their proposal being rejected, they went away indignantly, declaring, that unless their terms were acceded to, they would fetch away the children

in a couple of days, a threat which some of them actually made good. Several months passed away in this constant fluctuation of pupils, which rendered the adoption of any settled plan of discipline or instruction utterly impossible.

Unfavorable as all these circumstances were to the success of the establishment designed by the Helvetic government, they were perhaps the most favorable under which Pestalozzi could have been placed for those higher purposes for which he was destined by Providence; and the convent of the Ursulines at Stantz, which as an orphan asylum ceased to exist before the expiration of a twelve-month, will live for ever in the history of the human mind, as the school in which one of the most eminent instruments of God for the education of our species, was taught those important principles which he was called to discover and to promulgate. The first benefit which Pestalozzi derived from the hard necessity of his position, was, that he saw himself stripped of all the ordinary props of authority, and in a manner compelled to rely upon the power of love in the child's heart as the only source of obedience. The parents, as we have seen, did not even affect to support him; so far from feeling any moral obligation towards him, they treated him with contempt as a mean hireling, who, if he had been able to make a livelihood in any other way, would never have undertaken the charge of their children. This feeling, instilled into the hearts of the pupils, and supported by their natural indisposition to order and submission, established from the beginning a decided hostility between Pestalozzi and the children, which by harsh treatment and violent measures would only have been increased, so as to produce irrevocable alienation. The adoption of any of those crafty systems of rewards and punishments, by which the external subduing of every foul and unclean spirit has been elsewhere accomplished, was, under the circumstances of the case, entirely out of the question, even if Pestalozzi had been capable of making himself head policeman in his school. The only means, therefore, by which it was possible for him

to gain any ascendancy over his pupils, was an all-forbearing kindness. He felt himself unable, it is true, entirely to dispense with coercive means, or even with corporeal chastisement; but it must not be forgotten that his inflictions were not those of a pedantic despot, who considers them an essential part of a system of performances through which it is his duty to go, but those of a loving and sympathising father, who was as much, if not more than the child himself, distressed by the necessity of having recourse to such measures. Accordingly, they produced not upon the children that hardening effect which punishment generally has; and one fact particularly is on record, in which the result seemed to justify his proceedings. One of the children who had gained most upon his affections, ventured, in the hope of indulgence, to utter threats against a schoolfellow, and was severely chastised. The poor boy was quite disconsolate, and having continued weeping for a considerable time, took the first opportunity of Pestalozzi's leaving the room, to ask forgiveness of the child whom he had offended, and to thank him for having laid the complaint, of which his punishment was the immediate consequence. Such facts, however, far from convincing Pestalozzi of the necessity or the propriety of punishment, on the contrary proved to his mind the extraordinary power of love, which, if it be once established as the basis of the relation between teacher and child, penetrates the heart of the latter even when the former assumes for a moment the character of wrath, the measure of his forbearance being exhausted by an excessive offence. Indeed, from the manner in which he expressed himself subsequently on this subject, there can be no doubt, that if he had entered his career at Stantz with all those feelings and sentiments with which he left it, punishments of any kind would have been applied by him much more rarely, if not entirely dispensed with.

While Pestalozzi was thus in matters of discipline reduced to the primary motive of all virtue, he learned, in the attempt of instructing his children, the art of returning to

the simplest elements of all knowledge. He was entirely unprovided with books or any other means of instruction; and, in the absence of both material and machinery, he could not even have recourse to the pursuits of industry for filling up part of the time. The whole of his school apparatus consisted of himself and his pupils; and he was, therefore, compelled to investigate what means these would afford him for the accomplishment of his end. The result was, that he abstracted entirely from those artificial elements of instruction which are contained in books; and directed his whole attention towards the natural elements, which are deposited in the child's mind. He taught numbers instead of ciphers, living sounds instead of dead characters, deeds of faith and love instead of abstruse creeds, substances instead of shadows, realities instead of signs. He led the intellect of his children to the discovery of truths which, in the nature of things, they could never forget, instead of burdening their memory with the recollection of words which, likewise, in the nature of things, they could never understand. Instead of building up a dead mind, and a dead heart, on the ground of the dead letter, he drew forth life to the mind, and life to the heart, from the fountain of life within; and thus established a new art of education, in which to follow him requires, on the part of the teacher, not a change of system, but a change of state.

It is interesting to see, from Pestalozzi's own account, how deeply he was still entangled, even at this advanced period of his life, in the trammels which are imposed upon the mind, from the very moment of birth, by the present unnatural state of education; and nothing can afford more decided evidence of its baneful effects than the long protracted bondage in which it kept a man who had begun to struggle for his emancipation, before his enslavement was completed. He acknowledged himself that, deeply impressed as he was, long before his going to Stantz, with the insufficiency not only of the prevailing systems of the day, but even of his own experiments at Neuhof, yet, if necessity

had not forced him out of all his old ways, he should hardly have come to that childlike state of mind, in which it was possible for him freely and willingly to follow the path of nature. But he found himself in a position in which he had no opportunity of proposing to himself any scheme of his own, nor of choosing his own course; he was obliged, without taking thought for to-morrow, to do every day the best he could with the means which Providence had placed in his hands. There is no period, either in his previous career, or in the subsequent pursuit of his newly discovered principles, when he was so truly independent, not only of external influence, but even of himself, as we find him at Stantz, and it is thither we must follow him, if we wish to know him thoroughly.

There, in the midst of his children, he forgot that there was any world besides his asylum. And as their circle was an universe to him, so was he to them all in all. From morning to night he was the centre of their existence. To him they owed every comfort and every enjoyment; and whatever hardships they had to endure, he was their fellow-sufferer. He partook of their meals, and slept among them. In the evening he prayed with them, before they went to bed; and from his conversation they dropped into the arms of slumber. At the first dawn of light it was his voice that called them to the light of the rising sun, and to the praise of their heavenly father. All day he stood amongst them, teaching the ignorant, and assisting the helpless; encouraging the weak, and admonishing the transgressor. His hand was daily with them, joined in theirs; his eye, beaming with benevolence, rested on theirs. He wept when they wept, and rejoiced when they rejoiced. He was to them a father, and they were to him as children.

Such love could not fail to win their hearts; the most savage and the most obstinate could not resist its soothing influence. Discontent and peevishness ceased; and a number of between seventy and eighty children, whose dispositions had been far from kind, and their habits any thing but do-

mestic, were thus converted, in a short time, into a peaceable family circle, in which it was delight to exist. The approach of the milder season produced the same effect upon their health, as Pestalozzi's persevering benevolence had upon their affections; and when those who had witnessed the disorder and wretchedness of the first beginning, came to visit the asylum again in spring 1799, they could hardly identify in the cheerful countenances and bright looks of its inmates, those haggard faces and vacant stares with which their imagination was impressed.

The first and most alarming difficulties being thus overcome, Pestalozzi could now direct his attention towards the best means of developing the powers of his children, and keeping their growing energies employed. This required a degree of regularity which it was by no means easy to obtain; and he had wisdom enough, not to mar their freedom by enforcing more than they were in a state to grant. He knew that a stiff and mechanical uniformity of action is not the way to plant a love of order in the mind; nor a rigid maintenance of certain rules and regulations the means of ensuring ready and willing obedience; and his conduct, in this respect, was a practical illustration of the Gospel principle, to cleanse first that which is within, knowing that thereby the outside will become clean also.

He endeavoured, at first, to let the children feel the advantages of order and obedience; and the playfulness of his nature suggested to him a variety of means by which he could catch and fix their attention, whilst at the same time he afforded them real amusement. He was careful never to wear out their patience by too long-continued exercises. If he required silence, he would hold up his finger, and ask them to look at it and keep still, till it came down again, and the interval, which they readily granted, he employed in telling them some word or sentence which he asked them to repeat. This being done, he would dissolve the spell, and having allowed them the enjoyment of their freedom for a few minutes, he would, by some other trifle, fasten their

eyes and tongues again. The children were thus led on, in mere play, to a more serious attention, and it was not long before they saw how much more easily and successfully he could teach, and they learn, if they consented with one accord to lend themselves to his instruction. The more willingly they submitted to these little self-denials, the more progress did they make in the art of self-command, which it gave them true delight to practise, after they had once reached a certain point.

In matters of domestic discipline, he endeavoured, by an appeal to their own feelings and their good sense, to give them such a view of the nature of the case as would induce them to impose upon themselves those restrictions which were absolutely necessary. If some disorder arose from inattention to little things, he would say to them, "You see now, how all this great disorder has come upon us, by a trifling neglect. Does not this show that in so large a household every little matter should be carefully attended to?" At other times, if it became necessary to correct a child of some bad habit, he would tell him: "It is not on your account only, that I must desire you to leave off this practice, but on account of the other boys also, who might learn it from you, and so might acquire a habit which it would be very difficult for them to conquer. And do you not think that you yourself would not get rid of it so easily as you now may, if you saw others doing the same thing, so that you would be constantly tempted by their example?" By these familiar conversations he not only gained his point in almost every case, but he awakened in his pupils a general interest in the maintenance of good order, which proved far more efficient than any of the rules, statutes, and penal inflictions, by which a slavish conformity is commonly enforced. Conscious of the benefits which he himself had derived from his domestic education, Pestalozzi was anxious to give to his asylum the character of a family rather than of a public school. He frequently entertained his children with descriptions of a happy and well-regulated household,

such as that of Gertrude ; and endeavoured to bring them to a lively sense of the blessings which man may bestow upon man, by the mutual exercise of Christian love. But on this, as on all other subjects, he taught more by life and practice than by words. Thus when Altorf, the capital of the canton of Schwitz, was laid in ashes, having informed them of the event, he suggested the idea of receiving some of the sufferers into the asylum. "Hundreds of children," he said, "are at this moment wandering about, as you were last year, without a home, perhaps without food or clothing. What should you say of applying to the government, which has so kindly provided for you, for leave to receive about twenty of those poor children among us?" "Oh, yes!" exclaimed his pupils, "dear yes, Mr. Pestalozzi, do apply, if you please!"—"Nay, my children," replied he, "consider it well first. You must know I cannot get as much money as I please for our housekeeping; and if you invite twenty children among us, I shall very likely not get any the more for that. You must, therefore, make up your minds to share your bedding and clothing with them, and to eat less, and work more than before; and if you think you cannot do that readily and cheerfully, you had better not invite them." "Never mind," said the children, "though we should be less well off ourselves; we should be so very glad to have these poor children among us."

On another occasion, when some inhabitants of the Grisons, whom the terrors of war and political persecution had driven from their homes, passed through Stantz, and having visited the establishment, presented him with a small sum of money for his children, he called them together, and said: "These men, you see, have been obliged to flee from their homes, so that they know not themselves where they shall lay their heads to-morrow; and yet, in their own distress, they have made you this present: so I thought you would like to come and thank them yourselves." The scene which ensued was so affecting, that the strangers took their leave with tears in their eyes.

No one, perhaps, ever possessed in as high a degree as Pestalozzi, the talent of turning every circumstance to account, for the improvement of his pupils. He lived in his children, and whatever occurred, the idea uppermost in his mind was, how it might affect them, and in what manner it could be made the foundation of a good and lasting impression upon their feelings. This it was which rendered his instruction so powerful; his words were only subsidiary to the effect produced by the facts of life. He lost no time with inculcating moral precepts, or formularies of religion, but he taught lessons of love and piety every hour of the day. When his children were silent, so that you could hear a pin drop in his room, he would ask them: "Do you not feel better when you are thus quiet, than when you make a wild uproar?" Or if they threw their arms round his neck, and called him their dear father, he would say: "You call me your dear father; but how is it that you do, behind my back, what you know must displease me? Is it proper to kiss me one moment, and to give me pain the next by your bad conduct?" When, sometimes, the conversation reverted to the disasters which the country had suffered, and the children remembered with gratitude the kindness with which they had been provided for in the asylum, he would add: "But think, children, how good must He be, who has planted love and mercy in the heart of man!" This was indeed instruction, by the hearing of which "faith cometh."

The design of making all the children under his care view each other in the light of brethren, led him to render them, in a variety of ways, dependant upon each other. Each child, according to his age and his abilities, was, in his turn, engaged in employments, of which the others were to reap the benefit; and as their mutual services were not compulsory, but voluntary, they were kindly proffered and thankfully received. The advantage of this arrangement became particularly visible in school hours, when the more advanced and better informed boys acted as assistant-teachers; by which means the task of furnishing so large a

number of children, differing widely in age, in natural capacities, and previous acquirements, with occupation adequate to the peculiar wants of each individual, was greatly facilitated. But powerful as the aid was, which Pestalozzi derived from this plan for the communication of knowledge, it was by no means its primary object, or its most beneficial result. The promotion of mutual kindness was to him far more important than the carrying on of mutual instruction; and hence the latter was, in his school, not a dead mechanism, devised for the purpose of propelling the children in the course of a certain routine, and kept alive by selfish motives; but it was the spontaneous effect of the common tie of love, by which they were united, inducing them to assist each other in the acquisition of knowledge. Nor was the reciprocity of instruction confined to the children; alive as he was to his own deficiency in the knowledge of human nature, and in the art of directing its development, Pestalozzi became the pupil of his pupils, and learned those lessons of wisdom, which enabled him to stand up as a teacher of teachers.

At the opening of his school at Stantz he had no plan of lessons, no method, no school book, except one, and even this he scarcely used at all. Nor did he attempt to form a plan, to sketch out a method, or to compose a book. The only object of his attention was to find out, at each moment, what instruction his children stood peculiarly in need of, and what was the best manner of connecting it with the knowledge they already possessed, or deducing it from the observations which they had an opportunity of making within the sphere of their daily life. Nothing could be more unsystematic than his proceeding; the meanest schoolmaster would have thought it beneath him to assist in the management of a school, which was kept altogether, as it were, on the spur of the moment. But though there was in it little or no method, there was much life; the children felt excited, attracted, interested, stimulated. They had no tasks to get, but they had always something to investigate

or to think about; they gained little positive knowledge, but they increased daily in the love of knowledge, and in the power of acquiring it; they might have been at a loss if called upon to quote texts in support of any particular doctrine of Christianity, but in the practice of its virtues they were perpetually exercised. The whole tendency of Pestalozzi's instructions was not to initiate his children in the use of those phrases which form the currency of the scientific, literary, political, and religious world, nor to habituate them to any sort of routine for the future purposes of business; but to raise their state intellectually and morally, by a treatment conformable to the law of God in human nature. To discover this law, and to learn by experience the bearing which it has upon the development of the child, was the great object of his present exertions; he had thrown off all the fetters by which human society generally disqualifies man for that higher freedom in which God would lead him on; wherever he saw a land-mark of truth he steered his course towards it, and the result was, that when the events of the war banished him from Stantz, before the expiration of a twelvemonth, he left it with a distinct view of the nature of his task, and with a thousand floating ideas on the means by which it might best be accomplished.

CHAPTER IV.

*Burgdorf—Working in a Corner—Fisher and Kruesi—Boarding School—How Gertrude Teaches her little Ones—
Niederer—Elementary Books.*

IN summer 1799 the Austrians took possession of Stantz, and Pestalozzi was obliged to abandon his interesting experiment at the moment when it began to promise fruits of success: a result which was the more mortifying, the less prospect he had of meeting with another opportunity for the further pursuit of his labours. The political crisis, which for a long time threatened, and ultimately brought on, the dissolution of the central government, preoccupied the attention of the public, and especially of those in power, and prevented them from keeping their attention fixed upon the practical operation of ideas which they had, in theory, so warmly espoused. Owing to this unfavorable juncture of affairs, the number of enlightened visitors at the asylum in Stantz had been but very small, and unable to counter-balance in the public opinion the injurious reports spread by scores of superficial and ignorant observers, who considered a flaw in the details of instruction, or an irregularity in the conduct of the house, or even their own incapability of seeing what Pestalozzi would be at, as conclusive evidence of the incorrectness, or at all events impracticability of his views. Thus it came to pass that while the monks and nuns of Underwalden paid the tribute of sincere admiration and sympathy to an undertaking upon which they had at first cast the evil eye of suspicion, the public at large were more than ever confirmed in their old notion, that Pestalozzi was at best but an enthusiastic fool. It was with great surprise that he

found himself treated as such on reentering society, after a time of seclusion, during which he had, more than at any former period, given proofs of his personal usefulness, and of the powerful effect which could be produced by a persevering application of his principles. His work had been snapped off by the hand of war, but the scoffers exclaimed: "It is a pity, indeed, that the Austrians should have driven him away; had he been left to himself, he would not have gone on much longer, and then he would have been without excuse." The disappointment of seeing the work of his hands suddenly destroyed, after the greatest difficulties and dangers had been conquered, was rendered more poignant by the thought that the enemies of the cause had a new opportunity afforded them of reviling and ridiculing what he was on the point of establishing on the evidence of incontestable facts. Depressed by mental sufferings he fled into the solitude of the Alps, and amidst the rocks and steeps of the Gurnigel, sought rest for his weary soul, and health for his exhausted nerves.

But he was not made for inactive contemplation. The enjoyment of nature in its most majestic aspect, and the kind solicitude of his friend Zehender, soon restored him to cheerfulness and vigor, and he descended from the mountains with the firm determination to resume his experiment from the point where it had been cut short at Stantz. In consideration of his past services, as well as with a view to facilitate his further proceedings, he obtained from the Helvetic government the grant of a pension of about thirty pounds a year, which was raised to one hundred in 1801, but ceased entirely at the dissolution of the Helvetic government in 1803. This scanty pittance barely sufficed to secure him against absolute want, while the private resources which the wreck of his fortune had left him, were entirely absorbed in the maintenance of his family. By the advice of his friends Pestalozzi went in autumn 1799 to Burgdorf, where the interest taken by some of the leading men in the improvement of education seemed to open a door for him, and where he actually obtained access to one of the public schools, with liberty to

try his experiments. The school itself, however, remained under the management of the former master, who eyed his new colleague with a considerable degree of jealousy; and failed not to exert himself to the utmost of his power for the preservation of "the old system," as well as of his office, both of which he judged to be in equal and imminent danger. At last he succeeded, by alarming the prejudices of the parents whose children frequented his school, to bring about the dissolution of a partnership into which he had been forced without his consent and against his will. Pestalozzi who, in his eager zeal for the pursuit of his cause, had submitted to be "yoked together unequally" with a common drudge, received now the additional insult of being turned out of his office of supernumerary schoolmaster. But he was soon consoled for this misfortune by admission into an infant school, in which children between four and eight years of age were taught spelling and writing. Here the amiable disposition of the good old dame who presided over the toils of the poor innocents, and her indifference to the manner in which the "young idea was taught to shoot," left him at full liberty to keep "crowing the ABC" after his own fashion, from morning to night.

While he was thus engaged in following up the discoveries which he had made in Stantz, he had an opportunity of forming some connexions, which afterwards proved highly important for the promotion of his object. Fisher, one of the under secretaries of state in the Helvetic government, had been directed to reorganize the schools at Burgdorf, at that time the brightest spot for education in Switzerland, with a view to form them into model schools. The castle of Burgdorf, which before the revolution was the residence of the aristocratic governors, was assigned to him for the formation of a teachers' seminary, by means of which it was proposed to put the public instruction of the whole country upon a uniform plan. The calamities of the war, however, so exhausted the finances of the "*directoire*," that the remittance of the funds necessary for the first foundation of such an establish-

ment was delayed from month to month, and Fisher, whose heart was in the work, kept in a state of involuntary inactivity. This unwelcome leisure-time he filled up by close attention to the proceedings of Pestalozzi, with whose ideas he had in his official capacity become previously acquainted, and for whom he entertained personally a sincere and affectionate regard. From the documents that are still extant, it appears that Fisher had a system of his own, which seemed to him better calculated for general introduction as a government measure than Pestalozzi's as yet unripe ideas and the detached results of his experiments. But Fisher was not one of those men whom the consciousness of having done some good, renders bigoted against every attempt to do better; the sentence of condemnation pronounced by Pestalozzi upon the word-mongery of all the existing systems, so far from prejudicing his mind against a man whom he saw sincerely devoted to the service of mankind, on the contrary, rendered him the more anxious to ascertain the grounds of his dissent from the commonly received opinions, and the foundation on which his new structure was to be raised. The result of his frequent interviews with Pestalozzi was, that he regretted less and less the obstacles by which the execution of his own projects was delayed, and there is reason to believe that, if he had lived long enough to see a school organized on the plan of his friend, he would have given him the support of all his influence and his means.

But, though Fisher did not live long enough to cooperate personally with Pestalozzi, yet he rendered him a service of paramount importance for the success of his labours, by bringing him in contact with Kruesi. Switzerland had at this time become the scene of a murderous war between the Austro-Russian and the French armies, and the violent factions by which its inhabitants were divided, vied with the foreign invaders in carrying desolation and mourning to the remotest hamlets. In the canton Appenzell, where the old conflict of Catholicism and Protestantism had been pointedly preserved by a division of territory, the old feud was now

renewed under Austrian and French banners, and carried on with barbarian cruelty. Among the victims of these internal dissensions, were twenty-eight fatherless children of Protestant descent, whom the Helvetic government undertook to provide for in the proposed establishment at Burgdorf. The young emigrants, thus driven from their native soil, and separated from all their youthful recollections, were intrusted by the local magistrates to the guidance of Kruesi who, as a schoolmaster, had in an eminent degree merited the confidence of his fellow-citizens. Upon their arrival at Burgdorf, Fisher, who had no accommodations to offer them in the castle, put the children to board in various families of the town, but still kept them united in a day school, for the conduct of which he retained their paternal guide. This led to an acquaintance between Pestalozzi and Kruesi, and, after Fisher's death, to the union of their schools in the castle, the possession of which the central government now transferred to Pestalozzi.

The grant of a large empty building was a strange mode of assisting a man who had not a shilling at his disposal; and yet little as it seemed calculated to promote the realization of his views, it gave him the impulse for an undertaking far superior in extent to any in which he had before embarked. Wandering over a wide range of apartments, which appeared the more spacious the less they contained, he could not arrest the workings of his active imagination, which filled the whole edifice with inhabitants. Here was a dining room, here a suite of class rooms, here a hall for various games during bad weather; airy bedrooms, a fine kitchen, a large garden, every thing necessary for an establishment, except furniture, pupils, teachers, and the *nervus rerum*. For a man who did not object to spend his days with spelling in a dame school, provided he could teach and educate, such a position as this must have been truly tantalizing.

Nor did he endure it long. He had occasionally been applied to for private lessons by parents of the more opulent

classes, who, seeing the superiority of his mode of teaching, were anxious to ensure to their children the advantages of his plan. The success with which he had met, in applying his views to the claims of a more refined education, suggested to his mind the idea of forming a boarding school in the castle, of which he had now become the tenant. The difficulties which most of the members of the Helvetic government found in providing a suitable education for their children during the time of their residence at Berne, seemed to favour his project, and Pestalozzi having communicated it to some of his friends in office, they exerted themselves so effectually on his behalf, that before the expiration of 1799, he was enabled to announce the opening of an establishment, which counted twenty-six pupils in 1800, and thirty-seven in 1801. Of these, about one third were sons of representatives of different cantons of Switzerland, another part belonged to the wealthier class of tradesmen and agriculturists, and the rest were sons of respectable families, reduced by misfortunes, who were placed under Pestalozzi's care by benevolent friends or relatives. The expense of the first outfit was covered by a loan, which he was afterwards enabled to repay, though not without great difficulties; the small income of the institution being absorbed by its current expenses, so that it would have been impossible even to carry it on, had not the Helvetic government voted him, in addition to the annuity before mentioned, a sufficient provision of fuel from year to year, and a stipend of £25 each to two of his assistants, Kruesi and Buss, who, however, did not receive it, but considering the pressure of Pestalozzi's position, had generosity enough to appropriate it to the general funds of the house, from which they received nothing except their board and lodging. This fact, among others, shows the spirit of self-denial, and the high moral interest, with which the first followers of Pestalozzi embraced his cause; and the possibility, on his part, of accepting such sacrifices from those who were, according to the common notions of the world, his employed servants, reflects more

credit on his character than the greatest benefits which he could have bestowed upon them. What must have been the moral ascendancy, and what the intrinsic humility of a man, whose dignity did not suffer, nor his pride recoil, from being supported by those who had a right to look to him for a remuneration of their services. But he had a greater reward to give than the wages of Mammon, and it was for that reward that his disciples served him. And in this they only followed his example, who—though his new establishment, so far from yielding him any earthly profit, on the contrary imposed upon him care and anxiety ill to be endured by a mind like his,—was yet overflowing with gratitude to Providence for the opportunity afforded him of giving a more extensive trial to his views, and developing and applying more fully the principles which he had already discovered. In this light he considered his boarding school as a most essential means for the advancement of his general object; and while he laboured in it with that intense interest, which the free exercise of his long constrained and cramped energies would naturally produce, he kept his eye steadily fixed upon the original purpose, to which every undertaking of his life was to be made subservient.

A letter addressed by him in February 1801 to the central government at Berne, affords evidence of the comprehensive view which he took of the nature of his task, and the sanguine anticipations in which he indulged with regard to the means by which it might be accomplished. He proposed to himself the following three distinct objects:

1. To pursue the development of this method in all the different branches of private and public education, at the hand of experience.
2. To communicate to the world, by different publications, the result of his researches and experiments, and especially to put into the hands of well-meaning parents and teachers such manuals as would enable them to adopt his plan of instruction.
3. To educate teachers, who, being thoroughly initiated in

the spirit of his method, and familiarized with its practical details, should be fit instruments for its effectual propagation.

The means by which he hoped to attain these objects were:

1. The day school at Burgdorf, of which the young emigrants from Appenzell formed the nucleus.

2. The boarding school, recently formed, which was calculated for the middling and higher classes.

3. A teacher's seminary, the project of which was bequeathed to him by his friend Fisher, and which he had reason to expect would be established at the expense of the Helvetic government as soon as the state of their finances should render it possible.

4. An orphan asylum, the first and still favorite object of his wishes. For this purpose a private subscription had been opened, in addition to which he hoped to derive considerable support from the sale of his manuals and other literary productions on the subject of education, as well as from the profits of his boarding school, if in the course of time it should come into a more flourishing condition.

These were his plans and hopes at the time, when, at the request of his friend Gessner at Zurich, son of the celebrated poet, he gave an historical account of his experiments up to that period, and a general outline of his principles, in a series of letters to which he prefixed, with reference to his popular novel, the title, "How Gertrude Teaches her Little Ones." The impression which this book produced upon the public was highly favorable; it confirmed the friends of his cause in their hopes, and in their affections for him; and it convinced many of those who had been accustomed to tax him as a visionary, and his views and plans as idle speculations. It not only silenced his enemies, but caused many a voice to be raised in his favour; for, although those who have drank into the spirit of the Pestalozzian principles, such as they are now established after the lapse of more than a quarter of a century, may find his expressions often vague and unsatis-

factory, and even his views defective or erroneous in many points, it is not to be forgotten, that when the work was first published, the subject of education was enveloped almost in midnight darkness, and we need therefore not be astonished, that those who had their eyes open, should have hailed the appearance of those celebrated letters as the dawn of a new day.

It is a fact, of which the life of almost every distinguished man affords evidence, that the great mass of the public, dull of comprehension and slow to acknowledge merit, is in the same proportion unintelligently lavish of its admiration, as soon as a man has safely crossed the line of public opinion, and gone through the ordeal of the critical "sailor's dip." This proved to be the case now with Pestalozzi. He who had been an object of commiseration among philanthropic wiseacres, and the butt of every bad joke from the lips of the thoughtless and the unfeeling, was now extolled to the skies as the man of the age; and so high ran the tide of popularity in his favour, that he was chosen to be one of the deputies sent to Paris in 1802 pursuant to a proclamation of the French consul, in order to frame a new constitution which should unite the conflicting interests of Switzerland, and put a stop to its internal dissensions. The result of their labours was the Act of Mediation, which, while it secured the political independence of those parts of the country which had before the resolution been kept under the bondage of the domineering cantons, made a nearer approach to the ancient state of things by abolishing the central government and substituting in its place a diet, convoked annually, with limited powers. Being thus officially connected with the events of the day, Pestalozzi enlisted once more among the political writers, and embodied his views of the state of his country, and of the means of ameliorating it, in a pamphlet published under the title, "View of the Objects to which the Legislature of Switzerland has chiefly to direct its Attention." The liberal but moderate opinions to which he professed himself, and the

manifest tendency of his proposals to put a stop to existing evils, and to turn the crisis to account for effecting improvements which had long been called for, conciliated the minds of the well-meaning among all parties, and offended none but the high ascendancy men of the old aristocracy, who took their opportunities of testifying to him their displeasure at subsequent periods, when fear being less present with them, they grew more candid.

Meanwhile his establishment flourished under the hands of Kruesi, who had, as it were, identified himself with Pestalozzi's views, and had enlisted in his service two young men of ardent zeal, and more than common talent, Tobler and Buss. While Kruesi undertook arithmetic and the elementary parts of language, Tobler applied himself to the higher branches of scientific education, and Buss endeavoured to trace out for the instruction in singing and drawing, a course analogous to the general principles of the new method. The publication of the work, "How Gertrude Teaches her Little Ones," aroused the attention of several other young men, who came to Burgdorf, some with a view merely to get acquainted with "the system," and to turn it to account afterwards for their own purposes, and some with the intention of assisting Pestalozzi in the further pursuit of his plans. Among the latter was John Niederer, a young minister of high character and distinguished abilities, who had long held the author of "Leonard and Gertrude" in veneration; and who, after a personal acquaintance with him of about a twelvemonth, felt so deeply impressed with the truth and the importance of his ideas, that he gave up his living, and a small boarding school which he had formed in his house, and devoted himself entirely to the service of Pestalozzi's cause. As superintendent of the public schools of his district, Niederer had had an opportunity of making himself acquainted with the effects of education such as it was there imparted; he had been a witness to the ignorance in which the children were allowed to grow up; he had himself experienced the

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difficulty of exciting them to observation and inquiry, after their minds were once deadened by mechanical routine and mere memory knowledge; and as a minister, who was not satisfied to see his people "sit" under the Gospel, he had not remained blind to the fact, that notwithstanding a great facility of apprehending the words of Christianity, and reasoning upon its doctrines, the generality of the people had not even a dawn of its spiritual import, nor the slightest feeling of its life and power. In the ideas put forth by Pestalozzi he seemed to recognise what he himself had been long in search of; and the more intimately he became acquainted with them, the more was he confirmed in his conviction, that by following them up theoretically and practically, until they were reduced to last principles, the foundation of a new era might be laid in the progress of human civilization. On the other hand, Niederer possessed qualities which rendered him eminently fit for participating in so important a work. His mind, early accustomed to soar above the systems and creeds of men, had penetrated through the clouds of learning, and through the veil of the letter to the brightness of true wisdom, to an apprehension of the substance. He was distinguished by universality, clearness, and precision of ideas, and by an uncommon power of abstraction. Facts had no value in his estimation but so far as they led to principles; and he distinguished, with eagle eye, the hollow metaphysics of the sophist from the plain though emblematic language of truth. The assistance of such a man was essentially necessary to Pestalozzi, whose genius was like the dark summer cloud pregnant with light, but incapable of emitting it, except in sudden flashes, separated by intervals of deep obscurity. With all the anxiety of one who carries an unborn universe within his bosom, Pestalozzi was never able, often as he attempted it, to explain himself fully and clearly to others, or even to himself. His language, especially on abstract subjects, resembled the wavering glimmer of a lamp through the gloom of the forest, which, while it presents to the eye a few objects in a transient light, harasses the imagi-

nation by a thousand changeable shapes and shades, moving to and fro through the nightly mist. Niederer, on the contrary, who was not endowed with that creative genius, which would call a world of new ideas into existence, possessed in an eminent degree steadiness of vision, depth of thought, acuteness of judgment, and perspicuity of expression. Pestalozzi discerned and appreciated in him these gifts; he saw at once that Niederer was the man, who, like a mirror, would place his own ideas and feelings before his consciousness, and enable him to pursue his course securely and successfully.

With the assistance of such men as Niederer, Kruesi, Buss, and Tobler, the institution at Burgdorf was soon brought into a more organized state, and the complaints to which Pestalozzi's often desultory manner of teaching had, at the beginning, given rise, gradually ceased. Regular courses were drawn up by the respective teachers for the different branches of instruction taught in the establishment; which, after they had been put to the test of two years' experience, and had undergone the joint revisal of Pestalozzi and his friends, were committed to the press in the year 1803, and published under the title, "Pestalozzi's Elementary Books," in six Parts. They comprised a manual of arithmetic, one of elementary geometry, and one of languages, under the separate titles: "Intuitive Instruction in the Proportions of Number;" three Parts: "Intuitive Instruction in the Proportions of Measure;" two Parts: and "The Mothers' Manual, or Help to Mothers for Teaching their Children the Arts of Observing and Speaking;" one Part. A spelling-book on the same plan had been publishing as early as the year 1801, under the title, "Help for Teaching Spelling and Reading." These books, although far less imperfect than might be expected, considering the novelty of the idea, and the comparative rapidity with which they were completed, failed to produce the effect which Pestalozzi had anticipated. The fault, however, lay not so much with the books as with the public. The intention was to present parents and teachers with a detailed view of the course of exercises which

Pestalozzi and his friends pursued; but these exercises received all their value from the spirit in which they were applied, and the public being entirely devoid of that spirit, were unable either to use or to appreciate them properly. On the other hand, the few who had drank into the principles in which the method originated, and among them first of all Pestalozzi himself and his friends, made, with the facilities afforded them by those manuals, such rapid strides towards improvement, both in the theoretical and the practical part of the plan, that the first lesson courses were soon superseded by others more perfect in their arrangement, and more directly leading to the end proposed. Thus it happened, that those who stood in need of the "Elementary Books" were unable to understand or to use them, while those who understood them, and would have known how to use them, found them superfluous, and considered them only as interesting documents, marking distinctly the progress which the development of Pestalozzi's method had made up to the period of their publication.

CHAPTER V.

*Removal of the Establishment—Emmanuel de Fellenberg—
Yverdon—Teachers and Pupils—Spirit of the
House—Results.*

THE disappointment in the anticipated effect of his elementary books, was, however, not the only one which Pestalozzi experienced about this time. He had flattered himself with the hope, that the sale of those manuals would furnish him with the means of beginning, on a small scale at least, the projected orphan asylum; and with a view to render their circulation as extensive as possible he had obtained from the Helvetic government an advance of £250. At the close of the accounts, however, in 1804, it was found that the expenses of publication had not only swallowed up the whole produce of the sale, but in addition to it nearly the whole amount of the government grant. Meanwhile the Act of Mediation having set aside the system of central administration which the revolution had introduced into Switzerland and the "*Directoire*" being dissolved, Pestalozzi was deprived of all farther assistance from that quarter, without the prospect of similar support from any of the cantonal governments, whose means were mostly inadequate to an extraordinary expense of even this small amount. That of Berne indeed, in whose territory Pestalozzi's establishment was situated, had not the plea of poverty; the continuation of the annuity granted to Pestalozzi for himself and two of his teachers by the Helvetic government, would have been a mere trifle, compared to the sums annually voted by the senate of Berne for the maintenance of a family of bears, whose blood, uncontaminated by any intermarriage with common brutes of their species, reaches to the same antiquity as the noblest pedigree of the republic, of whose

strength they are the armorial emblems. But it was against this very pride of blood that Pestalozzi, as an advocate of democratic principles, had offended; the aristocratic rulers of Berne had not forgotten the danger in which all the privileges of "ancient families" were placed by the revolution, and being reinstated in the seats of power, they not only withheld all support from "the schoolmaster" who had settled within their boundaries, but they gave him notice to quit. This illiberal proceeding would once more have arrested the progress of Pestalozzi's cause, had not the government of the canton de Vaud, one of the provinces which were formerly tributaries of Berne, but which had gained their freedom by the revolution, invited him to transfer his institution to their territory, for which purpose they gave him the choice of several of those castles in which the deputy governors of the sovereign republic had in times past exercised their proud rule. Another offer was made him by Emmanuel de Fellenberg, the celebrated patron of education in Hofwyl, who, though himself descended from one of the aristocratic families of Berne, was on all occasions found on the liberal side, and who now proposed the removal of the establishment at Burgdorf to his estate at Munchen Buchsee. Pestalozzi fully appreciated the advantage of gaining for his cause the support of a man who was possessed not only of the pecuniary means, but of all the personal qualities, requisite for the administration of an extensive undertaking; but, on the other hand, he lost not sight of the danger of marring the internal success of his institution, while he secured its external prosperity, by subjecting it to the influence of views which bore no analogy whatever to his own. Fellenberg was endeavouring to trace out the shortest and most efficient way for rendering his pupils fit members of society; his education was essentially an education for the world; every child was placed, in his establishment, exactly in that rank in which he would have to appear hereafter in life; his occupations, his instruction, his mode of living, every thing was calculated to prepare him for his social position.

Pestalozzi's object, on the contrary, was, by the most direct and the most simple, though it might be the slowest course, to foster the internal growth of the intellectual and moral man; to the claims of the world he turned a deaf ear; he asked not for what society, but for what God had destined the child; his education was essentially an education in reference to the purpose of God, for the accomplishment of his will and law in human nature; and the position of each pupil in his establishment was accordingly founded, not upon the artificial institutions of society, but upon a spirit of freedom and brotherly love. In this dilemma Pestalozzi resolved upon sending one part of his institution, for a year's trial, to Munchen Buchsee, while he himself took up his abode, with the other, in the castle at Yverdon, to which, among the different places offered him by the government of the canton de Vaud, he had given the preference, on account of its beautiful situation on the south end of the lake of Neufchatel. This separation, however, lasted not long; the space of a twelvemonth was quite sufficient to prove the impossibility of a coalition between the spirit of Fellenberg and that of Pestalozzi and his disciples; and therefore when the year of trial was completed, the branch establishment at Munchen Buchsee followed the other to the place which has ever since shared the celebrity of Pestalozzi's name.

The cessation of all support, except the free grant of the building, while it increased, for a time, the difficulties of the undertaking, operated so far favorably, as it had the effect of concentrating the attention and energies of Pestalozzi and his friends upon the one institution which it was in their power to continue. The idea of forming an orphan asylum and a teacher's seminary, apart from the boarding school, was necessarily given up, and the objects contemplated in the plan of those two establishments combined, as far as possible, with the boarding school, in which, as its resources increased, Pestalozzi admitted sons of distressed families, chiefly from among the middling classes of society, free of expense, or at considerably reduced terms. Young

men who wished to devote themselves to education, many of them destitute of all resources, flocked in great numbers to Yverdon, where they all found a kind reception, and ample opportunities for acquiring general information as well as making themselves practically acquainted with the new method of instruction, and what was of far greater importance, with the spirit with which the whole house was conducted, and of which it is hardly possible, without personal experience, to form an adequate notion.

Never, perhaps, has the idea of domestic life, in the highest sense of the word, been more beautifully realized, never the effect of a Christian family spirit more powerfully illustrated, than it was in the flourishing times of the establishment at Yverdon, in which persons of all ages, of all ranks, of all nations, persons of the most different gifts and abilities, and of the most opposite characters, were united together by that unaffected love which Pestalozzi, in years a man verging to the grave, but in heart and mind a genuine child, seemed to breathe out continually, and to impart to all that came within his circle. His children forgot that they had any other home, his teachers, that there was any world beside the institution. Even the eldest members of this great family, men who had attained all the maturity of manhood, venerated Pestalozzi with all the reverence of true filial affection, and cherished towards each other, and towards the younger teachers and the pupils, a genuine brotherly feeling, such as has, perhaps, never existed on earth since the days of the pristine Christian church. There was no man that claimed any privilege for himself, none that sought any thing apart from the others. All the goods of the earth, and all the gifts of immortality, by whomsoever they might be possessed, were enjoyed in common by all; every individual, with all that he had, and all that he could command, devoted himself to the happiness and the improvement of all. There were not times and places set apart for duty, and times and places left without duty: in every place, and at every moment there was a claim of duty upon

the conscience of every individual; but the discharge of that duty was not a toilsome drudgery, it was a true delight.

Teachers and children were entirely amalgamated: they not only slept in the same rooms, and shared together all the enjoyments and labours of the day; but they were on a footing of perfect ease and familiarity. There was no pedantic superiority, no foppery of condescension, on the part of the teacher; nor was there in the pupils the slavish humility of fear, or the arrogant presumption of an equality, which does not exist in the nature of things. The same man that read a lecture on history one hour, would, perhaps, in the next sit on the same form with his pupils in a lesson of arithmetic or geometry; nay he would, without compromising his dignity, request their assistance, and receive their hints. Such facts were of daily occurrence in a house in which every one was a teacher of what he knew, and every one, even the head himself, a learner of what he knew not. The children saw in Pestalozzi their father, in the teachers of the house, their elder brethren; and they needed no rules to keep them in subjection, where a constant exercise of kindness imposed upon them the restraint of duty and hourly obligation.

To awaken that feeling, to kindle that spirit in the children, required, indeed, on the part of the teachers, a greater self-denial than most heads of establishments would find it possible to impose upon their assistants. But Pestalozzi's example operated like a spell; and his teachers submitted in his house to arrangements, which the same men, perhaps, would no where else have been able to endure. They had the immediate inspection of the different apartments, nay of the beds and clothes, as well as of the books of the children. In the morning, every teacher assisted those that were especially committed to his care, as far as their age might require it, in washing and dressing themselves; which being done, he conducted them to the great hall, where the whole family was assembled for morning service. During the day he lost sight of them only while they were engaged in lessons with

other teachers; but at meals, and in the hours of recreation, he joined them again; he participated in their plays, accompanied them in their walks, and at the close of the day, followed them again to evening prayers, and thence to bed. Yet in all this, there was on the part of the pupils perfect freedom; they were not forced to be with their teacher: but their teacher was always ready to be with them; and as his presence imposed upon them no artificial restraint, they delighted in his company. They found his assistance useful in satisfying their wants, his conversation entertaining in moments of leisure, his advice encouraging in the pursuit of their labours: their games became more interesting by his participation, their walks more instructive by the information they derived from him on a variety of subjects; their conscience was strengthened by the glance of his eye, their prayer sanctified by the fellowship of his love.

Such was the spirit, such the influence of Pestalozzi's teachers. To render them fit and willing to fill their stations in this manner, required, however, more than the mere appointment of certain duties, and the promise of a certain salary by way of reward. It required a deep sense to be awakened in them of the exalted and responsible character of their office; and their zeal needed persevering encouragement from the highest of motives. For this purpose, Pestalozzi endeavoured to make the teaching of others a source of instruction, the government of others a means of moral improvement to themselves. On two evenings in the week he met all the teachers, except such as were at the time necessarily engaged with the pupils, in a general assembly, alternately devoted to the discussion of the general means of instruction and discipline, and of the individual state of each pupil. Every teacher in his turn was called upon to give an account of the manner in which he proceeded in his lessons, and of the children which were placed under his instruction, or his superintendence. He was encouraged in freely communicating his observations, stating his difficulties, and offering his suggestions; he had to expect from Pestalozzi and from his brother teachers,

nothing but cordial assent where he was in the right, and kind advice, or gentle reproof, where he was in the wrong. It was in these assemblies that the younger teachers learned, by the manner in which they themselves were treated by the elder members of the establishment, the difficult art of living on an equality with those that were in a certain sense their inferiors, without descending to a level with them, and of admitting them to a familiarity which bred no contempt. The remarks of each, together with the resolutions to which they led, were put down in a minute book, which, while it formed the basis of an open and candid correspondence with the parents, served as a useful reference for any teacher who might wish for information on some particular branch of the method, or concerning some one or other of the pupils. The effect of these constant communications on every subject connected with their daily duties, could be no other than to produce a kind of unity of feeling, of thought, and action, among all the teachers of the establishment. They were not left to first impressions, to erroneous and prejudiced views; they could not for any length of time overrate or underrate the abilities, acquirements, or moral deserts of any of the children. The experience of one man threw light upon that of the other; one trait, one fact explained the other; and much of the injustice of which a single teacher will often, though ever so unwillingly, become guilty, was prevented by the full picture which was drawn by all in common of the state of mind of each pupil; not to mention the rich store of general knowledge of human nature, which these conversations must have been the means of eliciting from, and impressing upon, the minds of all present.

Another assembly of the teachers took place on Saturday evenings, for the purpose of collecting whatever observations might have been made by each, individually, during the course of the week, on matters of general discipline, order, &c. Defects in the management, inconveniences in the arrangement of the house, mistakes on the parts of teachers, and miademeanors on the part of pupils, were here brought

under discussion. The result of these deliberations, likewise, was put on record, and in a general assembly of teachers and pupils, held on Sunday evenings, such points as referred to the past or future conduct of the latter, were introduced, and their attention directed towards the means of remedying existing evils, or of attaining any object that was found desirable.

On all these occasions Pestalozzi's personal presence imparted life and interest to the whole; while such subjects as were not fit for public discussion, were settled by him in private interviews with the parties concerned. Every teacher had at all times free access to him, and he made a point of conferring with each of them separately, from time to time, on the duties which devolved upon him, and the impediments by which his progress might be obstructed. And in the same manner he kept himself in constant private communication with the pupils, who were presented to him by their respective superintendents in ordinary cases once a week. Having received a previous report of their conduct and their state, he conversed with them freely and kindly, and endeavoured to encourage in them a spirit of self-examination and self-watchfulness. So great was the power which he exercised over the hearts of the children, that they generally left his room in tears, after having with a kiss promised him perseverance in their efforts to do well, or if such efforts had not been made, amendment of life; and the effect thus produced was sustained by the impressive manner in which he adapted the morning and evening prayers to the peculiar circumstances of the cases which had come before him in the course of the preceding day.

In these labours of love Pestalozzi was most efficiently supported by his wife, who had joined him as soon as his plans began to bear a more settled aspect, and who interested herself especially in cultivating the affections of the younger pupils; while the more immediate administration of the different branches of economy devolved upon his daughter-in-law, and an old housekeeper, who had been in his family for

more than thirty years, and lived in it on the footing of a friend rather than a servant.

The domestic arrangements had for their object to form habits of order, and to ensure the enjoyment of good health to the children. In the morning, half an hour before six, the signal was given for getting up. Six o'clock found the pupils ready for their first lesson, after which they were assembled for morning prayer. Between this and breakfast the children had time left them for preparing themselves for the day; and at eight o'clock they were again called to their lessons, which continued, with the interruption of from five to seven minutes' recreation between every two hours, till twelve o'clock. Half an hour later dinner was served up, and afterwards the children allowed to take moderate exercise till half-past two; when the afternoon lessons began, and were continued till half-past four. From half-past four till five there was another interval of recreation during which, the children had fruit and bread distributed to them. At five the lessons were resumed till the time of supper, at eight o'clock, after which, the evening prayer having been held, they were conducted to bed about nine. The hours of recreation were mostly spent in innocent games on a fine common, situated between the castle and the lake, and crossed in different directions by beautiful avenues of chesnut and poplar trees. On Wednesday and Sunday afternoons, if the weather permitted it, excursions of several miles were made through the beautiful scenery of the surrounding country. In summer, the children went frequently to bathe in the lake, the borders of which offered, in winter, fine opportunities for skating. In bad weather they resorted to gymnastic exercises in a large hall expressly fitted up for that purpose. This constant attention to regular bodily exercise, together with the excellent climate of Yverdon, and the simplicity of their mode of living, proved so effectual in preserving the health of the children, that illness of any kind made its appearance but very rarely, notwithstanding the number of pupils amounted at one time to upwards of a hundred and eighty. Such was the care bestowed upon phy-

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their own consciousness, must needs have something to be surprised at, let them wonder that Pestalozzi realized so much of his views, rather than that he did not realize them all. The task which he undertook was one which a youth in the plenitude of his vigour might well have despaired of completing; it was not the task of one man, it was the task of succeeding generations, and it may, therefore, be freely avowed without any prejudice to the cause, that the greater part of it still remains to be accomplished. Its progress fortunately does not depend on the blind decision of public opinion, nor on the variable dispositions of the individuals engaged in its service; it is a seed of truth sown on the field of human culture, and though much of it should have fallen by the way side and on stony places and among thorns, yet some of it will bring forth fruit an hundredfold. Indeed, the fruit which it has borne already, affords satisfactory evidence of the nature of the seed: no one that has examined attentively and without prejudice the operation of this plan, so far as it has been carried into effect, has ever arrived at any other conclusion than the wish that the principles on which it rests, might receive a full and universal application. It was this legitimate inference from the first-fruits upon the harvest which attracted the attention of all Europe to a boarding school in an obscure little town among the mountains of Switzerland, and induced men who had completed their literary career to take their seat as fellow-learners among little children.

CHAPTER VI.

*Plan of Instruction—How far Realized—Manuals Published—
Literary Feuds—Writings on Education
and Politics.*

THE first leading idea which had come home with clearness to Pestalozzi's mind, was the necessity of founding the knowledge of the child upon the evidence of his senses. This axiom, which he laid down as the basis of his method, was in fact nothing else but a partial apprehension of the general principle, that true knowledge is knowledge, not of the name, but of the substance. This great truth had as it were identified itself with Pestalozzi's nature, and accordingly we find him in moral and religious education directing all his attention and energies to one point, which was to surround the child with such influences of virtue and piety as should give him a substantial acquaintance with the elements of moral excellence and of religion. But although, as a matter of feeling and of personal practice, Pestalozzi made the most universal application of the principle which is the characteristic feature of the reform he effected, yet as a doctrine he never saw it in so comprehensive a light. His mind was essentially unphilosophical, equally incapable of abstracting from the world of sense, and of bringing the results of his internal experience under the cognizance of his intellect. The consequence of this deficiency on his part was, that while his treatment of the children rested on the most vital ground, his instruction was consonant with his own principles only so far as the knowledge of the outward world is concerned. The plan laid down for the establishment at Yverdon embraced languages, ancient and modern, geography, natural history, physical science, mathematics, drawing, singing,

history, and religion. Of these there were only geography, the mathematical branches, spelling, perspective drawing, and singing, that could be said to be re-modelled on his plan.

The work, "How Gertrude teaches her Little Ones," contains the first experimental outline of his mode of teaching arithmetic and the elements of form. The numbers, lines, figures, &c., whose formation and proportions were to be the object of instruction, were brought before the child's view in visible and tangible realities, not in arbitrary signs or in mere words, and, for this reason, he designated his method by the appellation "intuitive." As he was not, however, himself aware of the existence of a mental intuition as clear and as certain as the intuition of the senses, he fell into the mistake not uncommon among reformers of all kinds, that in avoiding the one extreme of mere nominal knowledge conveyed by the usual systems, he ran into an opposite one by keeping the child to the visible representations of number and form in outward objects, long beyond that period when they are conceived in the intellect as mental realities or ideas in the true sense of the word, and thus methodically preventing the mind's emancipation from the external world. The merit of having detected and pointed out this mistake is chiefly due to Niederer, who from the first moment struggled against the tendency of Pestalozzi to incrustate, as it were, the mind in the perception of sense. The impulse which he gave, produced very soon a reform in the mathematical instruction of the establishment, and the pupils, after they had been allowed sufficient time by the aid of visible representations to acquire real ideas, were conducted to purely mental operations on the same subjects. The elementary books before mentioned were consequently laid aside, and some of their exercises only preserved for first beginners, while the different teachers endeavoured, each in his own department, to render their instruction more and more intellectual, or, as they would have termed it, "mentally intuitive." Some of the courses drawn up in this manner were subsequently published; and we have manuals of arithmetic, geometry, and perspective

drawing, from Kruesi, Lodomus, Ramsauer, and others; in English from Dupuget. The most useful of them, however, and those which having received the sanction of Pestalozzi and his establishment, may be considered as the authorised improved edition of the elementary books, are the mathematical publications of Joseph Schmid, who, whatever may be his demerits on other grounds, has, in this respect, rendered eminent services to the cause. He published successively the following aids for teachers: "The Elements of Drawing." "The Elements of Form and Size, commonly called Geometry;" in Three Parts. "The Elements of Number, forming the basis of Algebra." "The Elements of Algebra." "Application of Number to Space, Time, Value, and Ciphers."

Next to the mathematical branches, Pestalozzi and his disciples were most successful in the adaptation of their method to the knowledge of geography. The spot on which they lived was in this respect peculiarly favorable, as the surrounding country afforded a standing illustration of the principal outlines in which land and water present themselves on our globe. The town is situated in a valley of from six to eight miles breadth, between the extreme western terrace of the Alps, and the first or eastern ridge of the Jura. In its immediate vicinity there are vast morasses, which have been laid dry by canals cut in every direction, so as to render the soil fertile and the air salubrious. The well cultivated plain is intersected by the river Orbe, which issuing from the caverns of the Jura, at the distance of no more than a day's journey from Yverdon, and descending through the romantic scenery of Valorbe, forms a superb cascade, about the middle of its rapid course, where the whole river, swelled in the early part of summer by the thaw of the mountain snows into a majestic torrent, precipitates itself with a sudden fall of about twenty feet over a mass of steep rocks, and fills the neighbouring forest with the echo of its never-ceasing thunders. From thence its turbulent waves roll on over their rough bed, now expanding over a verdant plain, closely sur-

rounded by an amphitheatre of hills and woods, and now again narrowly hemmed in between crags, which descend perpendicularly upon the margin of the floods, and whose corresponding angles testify that, united in one mountain in ages unrecorded, they were rent asunder on one of those days, when "the foundations of the hills moved and were shaken." A gradual ascent of successive terraces leads from the plain of Yverdon to the eminence from which, at a terrific depth beneath, the Orbe is seen bathing with the foam of his mouth the foot of the immoveable rocks, and at last working out his passage into the plain, through which, as if conscious of his triumph, he proceeds in a slow and circuitous course to blend his pale waters with the deep azure of the lake. This fine landscape in the background is beautifully contrasted by the prospect of a longitudinal sheet of water, of from six to ten miles breadth, extending in the direction of N.N.E. to a distance at which the opposite shore can only be distinguished in a perfectly clear state of the atmosphere. The eastern border is formed by several chains of hills, covered with wood, which run parallel to each other, and whose promontories, projecting into the lake, break the uniformity of their gloomy aspect. Violent hurricanes, descending from time to time with a sudden gust from the opposite heights of the Jura, where they are generated by conflicting currents of air in the narrow mountain-passes, and stirring up the waters to the very depth, have heaped up the sands on this side, and created extensive shoals, which render navigation even in still weather impracticable. The opposite shore, on the contrary, presents a fine coast rising in an easy slope from the water's edge, whose laughing vineyards, interrupted only by gay villages, are overshadowed by the dark firs with which the Jura is girded round its breast, while its broad front presents, in the region of the clouds, long tracts of rich pasture, with now and then a small hamlet boldly hanging on the brow. To complete the magnificence of this scene, one half of the horizon from north-east to south-west, is crowned with the ~~many~~ **many** pinnacles of the Alps, raised above one another, and,

towering above them all; the giant Montblanc, with his everlasting pillars of ice.

Such was the school in which the pupils of Pestalozzi learned how the earth is fashioned, and what is the appointed course of the waters. He taught them to watch the gathering up of the morning mists, and the shadows of the early clouds, which passing over the glittering lake, hid for a moment, as with a veil of dark gauze, its streams of undulating gold; he directed their eyes to the flaming characters with which the sun writes the farewell of day on the traceless surface of eternal snow; he stood listening with them to the majestic voice of nature, when the autumnal gale howling on the floods, rolled billow after billow to the bleak shore; he guided their steps to the mountain caves from whose deep recesses the stately rivers draw their inexhaustible supplies. Wherever he found a leaf in the mysterious book of creation laid open, he gave it them to read, and thus, within the narrow sphere of their horizon, taught them more of earth and earthborn beings, than they could have learned by travelling in the pages of a heavy volume all round the globe.

This was, indeed, "intuitive" teaching; and experience proved, that independently of the moral effect which such an intercourse with nature can never fail to produce, the reality and vivacity of the ideas awakened in the children, concerning the relations of the great elements to each other, and to the beings whose existence they support, ensured a permanent and lively attention to whatever ulterior instruction in the science of geography it was deemed expedient to impart. In this a sharp line of demarcation was drawn between the earth as a creation of God, and as the dwelling-place of man. The simple features, by which the hand of nature has distinguished the different countries, were presented to the mind long before the artificial mould into which man has cast them. Physical and mathematical geography, founded upon the ideas acquired by self-observation, formed the groundwork of this branch of the method,

and statistical facts were superadded at the end, arranged in concise tables so as to facilitate their recollection. Successfully as this department of knowledge was cultivated in the establishment, there was not among its permanent members any one that felt competent to bring the subject forward on the field of literature; nor was there any urgent necessity for it since the publication of Gutsmuth's and Henning's "Manuals of Elementary Geography," especially that of the latter, who passed several years in the teacher's seminary at the expense of the Prussian government, and whose work is therefore, well calculated to serve as a specimen of the manner in which this science was treated in Pestalozzi's institution.

The last branch of instruction, that can with justice be said to have been organized in a manner conformable to the general principles of the method, is singing. Experiments on this subject were, at an early period, made by Buss, the only one of Pestalozzi's first assistants who had any pretension to musical proficiency; the results, however, were insignificant and unsatisfactory, nor was there any progress made, until an eminent artist of the name of Pfeiffer, who passed some time in the establishment at Yverdon, traced out an appropriate course of exercises, which was subsequently published by him, in conjunction with his friend, the celebrated composer Nægeli of Zurich, who added to it several collections of simple tunes, expressly composed with a view to their use in education. This was altogether a new idea. The art of singing had hitherto been cultivated as an ornamental acquirement for the purposes of amusement and display; as an accessory to the solemnity of worship it had been neglected to a point which rendered church music proverbial for its disharmonious notes. In education it had been considered not as a means, but as an end, and that one to which many a more important object was sacrificed. The method of Pfeiffer and Nægeli, and the spirit in which it was applied in Pestalozzi's institution, restored it to its original purpose, to become subservient to the cultivation of the affections; and the absurd distinction between sacred and

profane music ceased from the moment when music itself was placed on a sacred basis. The cheerful songs with which the youthful choir of Pestalozzi's pupils saluted the rising sun, or the lovely breezes of returning spring, so far from shunning, seemed on the contrary to call for, a reference to the bountiful Author of Nature, whilst the hymns of praise and thanksgiving, especially reserved for solemn occasions of worship, instead of enumerating dry doctrines in pedantic rhymes, teemed with those simple and significant effusions of feeling, of which, in the poetic portions of the sacred volume, we have left us such sublime and ever unparalleled examples.

Of the other departments of knowledge which have been enumerated, as being comprehended in the plan of instruction laid down for the establishment, little more can be said than that the different teachers upon whom they devolved, attempted, every one in his own manner, to adapt their instruction to the view which they took of the general principles of the method. But as not every one that entered under Pestalozzi's roof, drank into the fulness of his spirit, so many of those experiments proved parodies rather than imitations of his mode of proceeding; and though the children might not fare much worse under them than under the dead routine of "the old system," yet the unsettled state in which these parts of instruction necessarily remained, gave an excellent pretext to the enemies of the cause for crying down an institution in which, under the ægis of "the new method," the most unmethodical practices were pursued. This was the case more especially with reference to the instruction in languages, which opened to the pedantic advocates of the old grammar-school-plans a wide field for cavil. Pestalozzi himself had drawn up, in the "Mother's Manual," a course of elementary instruction in the mother tongue, which, however defective in some of the details, presents an excellent outline of what ought to form the first subjects of conversation between a mother and the child on her lap. But what might be excellent in the nursery, was not on that account

sufficient in an institution which extended its plan to preparation for the university; and as Pestalozzi himself, from the peculiar unfitness of his mind for abstract subjects, failed to supply his friends even with leading ideas, such as he had suggested to them on other topics, the "Mother's Manual" was made a general text-book, on which every one founded his own crude notions and ignorant proceedings.

Natural history and physical science were taught entirely without plan, though, in some instances, in a manner decidedly superior. The children were led to observe and to examine for themselves such objects and phenomena as were within reach; and, to enlarge the sphere of their knowledge, their teachers made excursions with them in different directions through the country. Sometimes they would all travel together, at other times they were divided into several troops, who, on their return home, communicated to each other the results of their observations. In an establishment in which there were no standing vacations, a few weeks every year could well be devoted to such expeditions, without encroaching on the time of their regular studies; and, in a country so eminent for the abundance and variety of its natural productions, it was impossible that the pupils should not, under the guidance of intelligent teachers, acquire rich stores of real information. The only objection that lay against the method pursued in the institution on these subjects, was that the pupils did not acquire a comprehensive view of the sciences, but that their knowledge, being gathered as it were upon casualties in the first instance, had a tendency afterwards to remain fragmentary.

The historical lessons laboured under still greater imperfections. Pestalozzi, from a sort of prejudice which he had conceived against historical studies, gave but little encouragement to their cultivation in the establishment, and accordingly their treatment by the different teachers was, more than that of any other branch of instruction, subject to endless changes. One man read abstruse lectures, another drew up a set of synchronistical tables; to some it seemed preferable to

connect all history with biographical sketches, while others indulged in lengthy discussions on the different forms of government, and the best polity; some hurried over the whole of the records of humankind in a few months; while others found their whole set of pupils changed between their ante and post-diluvian lessons.

A far greater unity of plan was observable in the religious instruction of the establishment, which Niederer, an ordained minister of the Swiss Protestant church, conducted, if not in strict accordance with the principles of Pestalozzi's method, at least in perfect conformity to those of the Gospel, and with a zeal and dignity which, in many instances, were crowned with eminent success. Equally distant from the whining tone of an ostentatious professor, which makes up by diffuseness of language for lack of spirit, and from that absurd and profane theology, which does violence to common sense in the attempt to make religion "rational," and surrounds the records of revelation with deep moral difficulties, in order to get rid of some superficial objections of the carnal understanding, Niederer made it his main object to present the Bible as the book which explains, authoritatively, the mysteries of man's nature and his present condition, and to lead the children to search within their own hearts for the influences of that good and perfect Spirit, by whose operation alone man can be enabled to receive the truths and enjoy the blessings of the Gospel. To bring to view, in all its various bearings, the scheme of eternal love and mercy for the redemption and restoration of a fallen world, was the point, towards which every word of his instruction was directed. But in doing this he lost too much sight of the age and capacities of his hearers, and instead of nursing them up with milk, the appropriate food of babes, he overfed them with the strong meat of his deep doctrinal views. This mistake was the more to be regretted, as the instruction in other branches, which might have served as a sort of preparation, was conducted in a manner little calculated to render it subservient to such a purpose; and those of the children, who were un-

able to follow Niederer into all the depths to which he descended, would have derived but very little religious benefit from their abode in the establishment, had it not been for the spirit of piety and Christian love diffused over the whole house, and Pestalozzi's unremitting attention to domestic worship. It was in those solemn moments, when the whole family was assembled in the presence of God, that Pestalozzi, in his conversation and his prayers, directed the attention of the children to their state and their individual religious wants, and supplied the deficiencies that arose from the universality with which Niederer viewed and treated the subject, and which rendered his teaching, though inefficient, perhaps, for the majority of the children, yet for adult persons, by whom his lessons were numerous attended, and for the more advanced and gifted pupils, highly interesting and impressive.

That an establishment, whose founder had announced himself as a universal reformer of education, should, upon discovering these various deficiencies in the practical execution of the plan, have to endure severe obloquy, was indeed to be expected. For nothing excites a more irreconcilable enmity in the public mind than the promulgation of principles whose exalted character is an implicit condemnation of the base motives and mean practices of the vulgar, and every man that assumes so dangerous a position must be prepared to find his practical exertions tried by the severest standard his own doctrines will afford, not because the world is anxious for perfection, but because every tittle of failure in him who enforces its claims, diminishes in the sophisticated mind the strength of the obligation. This truth was, perhaps, never more strikingly illustrated than in the judgments which were past upon Pestalozzi's principles, on the ground of the defects that were visible in his establishment. The consideration that a reform of that magnitude required in its very nature not only a considerable portion of time, but also a combination of talents and acquirements, such as could hardly be expected to meet

together within a few years, never once entered the minds of those who took upon themselves to pronounce on the value and practicability of Pestalozzi's views. They only asked: "Is it all in his house as he says it ought to be?" and finding that this question could without much difficulty be answered in the negative, they did not hesitate a moment to declare the whole a "mountebank's theory," not deserving the attention of the respectable part of the public. Thus whilst a few men of intelligence and candour, such as Johannsen, Gruner, Von Tuerk, Chavannes, Jullien, and others, raised their voices in favor of the new plan, the clamour of detraction prevailed to such a degree, that Pestalozzi, confiding in the excellence of his cause, requested from D'Affry, at the time President of the Swiss diet, the nomination of a committee for investigating his plans and proceedings. His wish was complied with, but it was only that he might learn at his own cost the truth of the adage

"Incidit in Scyllam, qui vult vitare Charybdin."

Three commissaries, one of whom was the celebrated Père Girard of Freyburg, were appointed to pay a visit to the institution. They remained at Yverdon for five days, during which they were present at the lessons, and had conversations with Péstalozi himself and some of his first disciples and friends. After this *deliberate* inquiry the committee drew up a report, which, passing by altogether the principles and general ideas on which the whole undertaking was founded, confined itself to a statement of mere matters of fact. Nevertheless, the substance of it was by no means unfavorable to the establishment, especially as the commissaries explicitly acknowledged the difficulties under which they had laboured in forming a correct estimate, within so limited a period of time, of a subject altogether new to them. This report, which was originally intended only to be laid before the Swiss diet, was, to the great disappointment of the commis-

saries themselves, ordered to be printed, and thus acquired a publicity for which it was ill fitted. As an official document it was laid hold of with a shout of triumph by Pestalozzi's enemies, whose vociferations became more frequent and more violent than ever, until an article in the Literary Intelligencer of Goettingen, in which every word of the report was malignantly strained to the very extreme of unfavorable construction which it would bear, drew from Niederer's pen a vigorous answer in two octavo volumes, of which the first was chiefly devoted to a vindication of the principles of Pestalozzi, and of the establishment so far as it had been misrepresented; while the second had no other object than to supply some necessary documents and to expose in all its baseness the malignancy as well as ignorance of the attacks which had at last rendered this defence necessary. So imposing was the dignity which pervaded the former part, and so cutting the censures contained in the latter, that the adversaries were completely put to silence, except, perhaps, here and there a faint murmur on "the tone" of the author. This work which, notwithstanding its polemical tendency, is of lasting interest, assigned to Niederer at once that pre-eminent position which he has ever since maintained among the advocates of Pestalozzi's cause, and in which he has been acknowledged even by those who have widely differed from him in sentiment. As a defence of Pestalozzi's person and of his views and plans against the attacks of calumny, it was published in Niederer's name on behalf and with the concurrence of all the teachers of the establishment, contrary to the usual practice of publishing under the name of Pestalozzi whatever was the production of his institution or of any individual connected with it, Schmid alone excepted, who would not forego the gratification of immortalizing his name on the titlepages of his manuals. The fact that, with one exception, all the men who formed Pestalozzi's circle at that period, placed themselves personally in the background in order that he might reap whatever of honour or emolument should result from their labours, while it affords an

additional evidence of the spirit by which they were actuated, throws great light upon the alteration not only of style but of ideas, which discovers itself in Pestalozzi's writings during this period. We find him now using a more definite and systematic language, and carrying his disquisitions beyond the surface of external perception to those more abstruse points of which the internal consciousness of man's mind is the only tangible evidence. This change is to be attributed chiefly to the influence of Niederer, who had made it his peculiar task to connect and systematise the scattered fragments of truth which Pestalozzi threw out in his own desultory manner. To those who are conversant with the peculiarities of the two men, it is easy to point out, passage by passage, what belongs to Pestalozzi, and what to Niederer; whilst to the uninitiated the whole appears the production of one and the same mind. This is particularly the case in the speech which was read by Pestalozzi on the occasion of his being chosen president of a society for the promotion of popular education, and which being afterwards published with considerable enlargements and additions, is commonly known under the appellation of "The Lenzburg Speech," from the name of the town in which the meeting took place. This document, which occupies the greater part of a moderate octavo volume, a "Report to the Parents" whose children were educated in the establishment, from 1807, and a series of essays on various branches of the method, most of which appeared in a weekly journal of education published between 1810 and 1812 "by Pestalozzi and his friends," present a tolerably clear view of the joint ideas which Pestalozzi and his disciples entertained during this period of the cause in which they were so zealously engaged.

But although his main exertions were directed towards the achievement of his plan of reform in education, he did not allow his attention to be engrossed by it so far as to render him indifferent to what was passing around him. In the

eventful years 1814 and 1815 he testified the lively interest which he took in the cause of European emancipation from the thralldom of military despotism by his "Earnest Appeal to the purer and nobler Feelings of my Countrymen." His favorite topic, national improvement by means of general and especially domestic education, is here viewed in connexion with the new prospects which the political crisis seemed to hold out ; and the work is, by the maturity of its views and the moderation of its language, truly characterized as what the title declares it to be, viz. the farewell of "a man who, on the verge of the grave, weary of the struggles of his life, wishes, before he depart hence, to deposit an offering of propitiation on the altar of humanity, on the altar of all the children of God."

CHAPTER VII.

*Vicissitudes and Failings—False and Faithful Disciples—
A cloudy Sunset.*

PESTALOZZI seemed now in the *perihelion* of prosperity. His establishment, in which the satisfactory results of past exertions were happily combined with sanguine anticipations of future success, counted pupils of all nations and tongues, and was daily inspected by visitors from all quarters of the globe; as a writer, he had at last, notwithstanding his peculiarities both of thought and of style, acquired an eminent position in the world of letters; his personal character was universally loved and respected, and his very detractors obliged to put on at least the appearance of regard for a man to whom the greatest sovereigns of Europe gave marks of interest and respect, not in idle leisure hours, but at the moment when the destinies of our hemisphere were put to the decision of the sword.

But "all is not gold that glitters," is an old saying, of the truth of which Pestalozzi's position afforded a striking illustration. His anxiety to supply his institution with apparatus of every kind, the enlarged view which he took of his undertaking, and which induced him, among others, to establish a printing-office in his house, his unbounded benevolence, which would not allow him to refuse an asylum under his roof to any one that professed to have "a calling," for the school-room, together with his improvident habits and his inveterate neglect of all matters of business, brought his finances, which had not been very flourishing at Burgdorf, into so deplorable a condition at Yverdon, that even his credit was entirely destroyed. The relations of his wife

insisted with her on securing the few fragments that remained of her fortune, and his estate on the NeuhoF, so far as it was not mortgaged, against the danger of being swallowed up by an establishment which, in any other hands than his, would have yielded ample profits; and which was now preserved from utter ruin only by the zealous exertions of some of the most respectable inhabitants of the town, who formed, with Pestalozzi's concurrence, a finance committee for the administration of the pecuniary concerns of the institution.

These external embarrassments, however, great as they were, could not have materially injured the progress of his cause, had Pestalozzi possessed that rare heavenly gift,

*"Alteram sortem bene præparatum
Pectus."*

The intoxicating incense of popularity, by which many a great man has been deprived of the sense of what is truly great, assailed his heart with temptations of vanity to which after a long struggle he fell a victim. The unaffected benevolence of his disposition, the youthful animation of his countenance in the age of decrepitude, the appearance of indigence in his dress, and the rustic simplicity of his manner, in singular contrast with his European fame, rendered him the idol of the multitude; while his disciples were, by their enthusiastic admiration of his views and their filial respect for his person, betrayed into the dangerous weakness of "calling him Rabbi," and claiming for him, as the bearer of a divine mission to man, in his house, and afterwards even before the public, an authority similar to that which Jesus Christ exercised over his disciples and over the world at large. "The Pestalozzian idea" was spoken of as a new sort of gospel, of which he was the personal representative, and every difference of feeling or opinion that occurred in the house converted into an opportunity of discussing in abstruse and scholastic language the respective limits of mastership and discipleship. The consequences of this injudicious and,

in a certain sense, profane presumption became soon apparent in Pestalozzi's conduct; and those who had taken such pains to place him on a superhuman elevation, had the humiliating discovery to make that their "master" was but a weak mortal, liable to be subdued by the common frailties of our nature. A struggle now ensued, in which the more earnest and conscientious amongst them, with Niederer at their head, endeavoured to vindicate the true dignity of Pestalozzi's character and position against an arrogance which they themselves had helped to nurture up in his heart; whilst others, more anxious to share his fame than jealous of its purity, seized every opportunity, by flattering his growing passions, to drown the voice of his conscience, and by instilling into his bosom the venom of suspicion, to render him deaf to the warnings and entreaties of those of his friends who remained faithful to him even when he was no longer true to himself. The most prominent among those who sided with Pestalozzi's evil genius, was Joseph Schmid, in earlier years a pupil of the establishment, who soon obtained an eminent rank among its teachers by his decided talent for the mathematical branches of the method. Educated in the gross superstitions by which Romanism has beguiled the single-hearted inhabitants of the Tirolese mountains, his mind was hardened against the purer and more spiritual form under which, in Pestalozzi's institution, Christianity was presented to his mind; and when by a cultivation of those sciences for which the natural bias of his faculties gave him a predilection, his intelligence was developed to a point at which it was no longer possible for him to remain under the bondage of his rosary, the pride of life took possession of his soul. He who in the first weeks after his arrival was often seen kneeling in the corners of the house imploring the Virgin Mary to "make him the first pupil of the institution," became afterwards lavish of coarse invective against what he termed "the Catholic nonsense;" and the sneering infidelity of his maturer years proved infinitely worse than the superstitious ignorance of his boyhood. His

conduct, under the influence of such an unsanctified and uncontrolled spirit, became, in spite of all the efforts that were made to lead him into a better path, so offensive, that it was found necessary to dismiss him from the institution as early as 1810, a disgrace which he resented by presenting the public with one of the crudest productions ever issued from the press, in a pamphlet entitled: "My Experience and Ideas on Education, Establishments and Schools," and chiefly intended to lampoon Pestalozzi and his elder disciples. The forbearance with which this step was treated by those against whom it was levelled, abated his animosity to a certain degree; and, after four years lost in the vain pursuit of ambitious projects, he gladly availed himself of an invitation to return, which was given him, in Pestalozzi's name, by Niederer, on the guarantee of his repeated professions of repentance and humility of heart. His decided talent, not only for the conduct of the mathematical classes, but also for the administration of the financial department, rendered him particularly valuable in the eyes of Pestalozzi at a period when he had grown heartily tired of the guardianship of the Finance Committee, whose control over his house, while it shackled his freedom of action, made his pecuniary affairs the common topic of discussion in all the little coteries of a small country town; and Niederer, who, from a conviction of the pernicious tendency of Schmid's influence, had chiefly insisted upon his dismissal, allowed himself to be duped by his fair promises into a hope that the experience he had since made, would lead him to turn his second stay in the establishment to a more profitable account than he had done the first.

But Schmid was hardly re-settled in his old position before he discovered that to stand first in the house, the only way for him was to stand alone, and embraced the opportunity which Pestalozzi's own state of mind afforded him, of gaining an overbearing influence and defeating his competitors on a ground on which they disdained to meet him. At first his operations were all covert; but after the death of Mrs. Pestalozzi, in 1815, he threw off the mask

completely, and set himself in open opposition to all Pestalozzi's earliest and most faithful friends. The first place among these was occupied by Miss Rosetta Kasthofer, a woman equally distinguished for her accomplished education, and the elevation of her character and sentiments, to whom Pestalozzi, in the fond enthusiasm of friendship, had given, over his heart, the rights of a daughter. In consequence of an old connexion existing between him and her family, he had known her almost from her infancy, and fully appreciating her value, he invited her repeatedly to Yverdon, in order to enlist her in the service of an establishment for female education, which was annexed to the great institution in the castle, and which, after she had conducted it for more than four years in his name, she was obliged from 1813 to continue on her own responsibility, Pestalozzi's pecuniary embarrassments rendering it impossible for him to contribute any longer to its support. Considering the intimacy of her relation to Pestalozzi, and the influence which she exercised over him, her marriage with Dr. Niederer, which was celebrated in summer 1814, seemed well calculated to cement more firmly the union which subsisted between the two men, in spite of the great disparity of their tastes and characters. She was, and had the wisdom to remain, a stranger to their struggles, confining herself to the more womanly task of healing the wounds that were inflicted. Every discord, that arose in the strifes and contentions of the men, was resolved by her delicate hand; and, had it been in her power to maintain her influence uninterrupted to the last, she would no doubt have preserved her paternal friend from the sad catastrophe which overtook him on the brink of the grave. Of this Schmid was perfectly aware, and against her, therefore, his intrigues were chiefly directed. After he had driven away from Pestalozzi's side one after the other of his first disciples, after Kruesi had taken his leave in 1816, with the voice of sorrow, and Niederer the year after with the voice of warning, Mrs. Niederer was assailed by the basest calumny. Her long-

continued and successful services in Pestalozzi's cause were attributed to motives of the most sordid avarice ; and, after years of uninterrupted sacrifices on her part, she was represented as if she had abused his benevolence for the purpose of filling her purse.

From this moment the struggle which had hitherto been carried on for the moral interests that were at stake, assumed a purely personal aspect, and Schmid, thinking himself screened, as under a magic mantle, by Pestalozzi's personal protection, heaped indignity upon indignity with the most daring boldness, till, at last, his nefarious practices procured him a decree of banishment from the government of the canton de Vaud. But neither this pointed mark of disgrace, nor the public execrations that followed him wherever his tale was known, could deter him from pursuing his former course ; he dragged Pestalozzi away from his establishment, which had gradually sunk into complete ruin, to the Neuhoof, from whence the controversy, which had been terminated in 1824 by a sentence of umpire, setting forth most unequivocally the groundlessness of the insinuations thrown out against Mrs. Niederer's character, was re-opened by the publication of a volume, long announced in the tone of menace, and purporting to give an account of the events of Pestalozzi's life since the establishment of his institution at Burgdorf.

"By misfortune was his life prolong'd
To tell sad stories of his own mishaps."

Of all that was put forth on either side in this unfortunate feud, which began with newspaper articles and ended with volumes, may nothing be recorded on the page of biography except the declaration which Pestalozzi gave of his own accord to one of his earlier disciples,* who had taken no part in the subsequent contests, and in which he

* Mr. Nabholz, director of the Teachers' Seminary at Aarau, a man whose well known integrity fully merited the confidence placed in him by Pestalozzi.

states: "That his work, 'Events of my Life, &c.' was written by him in a disposition of mind, which, bordering on insanity, rendered it impossible for him to take a true and correct view of things. That by circumstances, and the influence of those around him, he was compelled to make assertions, which, upon calm consideration, he finds himself obliged to retract as opinions not his own, but forced upon him against his conviction. That this is particularly applicable to all those passages, in which he rejected the method formerly established and publicly advocated by him, as being untenable, and not founded upon his own views. That he intends availing himself of the first opportunity of making a public declaration to this effect; but, if he should die before having done it, he begs of his friend to do it in his name, stating himself to have been expressly requested and commissioned by him so to do."*

It was in these years of alienation from his earlier friends, and from the cause in whose service they had joined him, that Pestalozzi undertook a new edition of his works. The arrangements which Schmid made with the publisher, authorized Pestalozzi to collect subscriptions on his own account, which he intended to convert into a public fund for the establishment of an orphan asylum according to his original plan; and the satisfaction which this circumstance afforded him, at a time when he was almost destitute of pecuniary resources, contributed not a little to the ascendancy which Schmid acquired over his mind. In reality, however, none of the objects contemplated by this undertaking were attained; the sums which the liberality of the public placed, from implicit confidence in Pestalozzi's name, into the hands of his unfaithful steward, vanished like gold in the furnace of an alchemist; while the invaluable productions of his better days, calculated to become the lasting monuments of

* The document from which the above extract is taken, was inserted at the time in several public journals of Switzerland and Germany, and a manuscript copy of it was sent to the writer of this memoir.

his glory, were not only re-edited with great negligence, but in many parts intentionally mutilated, and disfigured by being made vehicles of personal insinuations. Meanwhile the institution, which had once been a model of domestic union and Christian fellowship, had become the scene of every disorder and corruption, and was crushed, at last, by the moral indignation of the public, and the weight of its pecuniary debt.

Thus did Pestalozzi see himself, at the age of eighty years, overwhelmed with disappointments and mortifications bitterer than any he had ever before experienced. Separated almost irrevocably, by a ten years' alienation and virulent contention before the public, from those with whose names every happy association of his mind was connected; riveted by the force of habit, the ties of blood,* and the difficulties of his position, to a man whom, however prejudiced he might at one time have been in his favour, his soul began at last to loathe and abhor; in open opposition to the cause, whose instrument he was called to be, and in whose service he had spent a life of troubles; he was an object of scorn to his enemies, of pity to his friends, and of just condemnation to the advocates of his own principles. Under these circumstances it was a blessing for him to be removed from this scene of sorrow. He died on the 17th of February, 1827, at Brugg, in the canton of Basel, and his mortal remains were afterwards deposited in the ground which owed its fertility to the vigorous exertions of his ripening manhood. Peace be with his ashes!

* Schenk had taken care to render the tie which linked him to Pestalozzi indissoluble, as far as in him lay, by a marriage between his sister and Pestalozzi's grandson.

CHAPTER VIII.

Person and Character—Testimonies of Friendship,

PESTALOZZI was naturally endowed with extraordinary powers of body and mind. By the moral struggles which he sustained, his health was occasionally impaired, but his iron constitution could not be undermined by transient fits of nervousness, which had their origin more in the too free indulgence of his strong and acute feelings, than in any defect of his physical organization. His stature was short, and by a tendency of the head to sink in between the shoulders, his deportment, even in his younger years, uncomely. His eye beaming with benevolence and honest confidence, soon dispelled any unpleasant impressions which the ruggedness of his appearance was calculated to produce; while his wrinkled countenance, which attested in every feature the existence of a soul, to whom life had been more than a thoughtless game, commanded, with irresistible power, that reverence which his figure could never have imposed. His entire neglect of his person and dress increased the natural disadvantages of his exterior, and a characteristic anecdote which has been preserved, shows how much of what is commonly most noticed among mankind, the divine credential on his brow caused his admirers to forget. Mrs. Pestalozzi was in company with some other ladies enjoying the promenades of a watering place, to which she had repaired for the summer months, when her husband, who came travelling on foot, to pay her a visit, was perceived at a distance by one of the company; and the singularity and unattractiveness of his appearance having affected the sensibilities of his fair beholder, to whom he was personally quite unknown, she exclaimed, addressing Mrs. Pestalozzi; "*Ah! je vous en prie, Madame, regardez*

donc, quel monstre !"—" *C'est mon mari, Madame ;*" was Mrs. Pestalozzi's proud reply.

In his diet, Pestalozzi was a pattern of simplicity and moderation ; he took little sleep, and often passed the greater part of the night in writing or dictating ; mostly in a reclining posture, so as to afford rest and ease to his body, while his active mind refused to abandon itself to the arms of slumber. During the day he took much exercise in the open air, a practice which he continued to the most advanced period of his life. In the distribution of his time and his general habits, he was not only irregular from indulgence, but positively impatient of all order and system. Matters of business he treated, or rather neglected, with the utmost indifference ; and if he ever learned the value of money, or appreciated the means of acquiring it, it was only because the want of it had impeded him repeatedly in the pursuit of the objects dearest to his heart.

His temper was cheerful ; his wit ready and pointed, but without sting. His conversation was at all times animated, but most so when he entered into explanations of his views ; his lively gesticulation was then called in to assist his utterance, especially when he spoke French, which not being familiar to him, he was constantly tormented by a vague consciousness of the inadequacy of his expressions to the ideas which he had in his mind. Such was the affability of his manner that it was impossible long to feel a stranger in his presence, while the native dignity diffused over his whole being, kept even the indiscreet at a respectful distance.

He was an affectionate husband and a kind father. The privations to which his enterprising spirit, and his unbusiness-like habits exposed his family, cost him many a pang ; and much of the gloom and bitterness which assailed him at different periods, and especially towards the close of his life, is to be attributed to the struggle of his domestic affections against the generous disinterestedness of his public character. His wedded life, although not one of uninterrupted felicity, was one of love persevering to the

end; and the monument erected over the grave of Mrs. Pestalozzi, under the shade of two fine walnut trees in his garden, became the favorite spot of his lonely musings, when he could no longer share with her his secret joys and sorrows. He was less happy as a father; confirming by his example an observation frequently made, that men eminently successful in the education of youth generally, are not always so in that of their own offspring. His son, to whom it seemed injurious rather than beneficial to be descended from such a father, died little regretted at an early age; and his grandson, who was educated in the establishment, and afterwards apprenticed to a tanner, as the calling most suitable to his taste and abilities, reduced the hopes which Pestalozzi might have entertained of his posterity, to the uncertain prospect of what would, under such inauspicious circumstances, become of a little infant boy, the fruit of the grandson's marriage with Schmid's sister. But Pestalozzi had already learned, under so many different forms, the bitter lesson, that the dearest objects of our wishes are often those which are refused us by Providence, that it sufficed him to play away, in childish games with the little babe, the weary hours of his latter days.

The relation in which Pestalozzi's character was most fully developed, and appears to the greatest advantage, is that in which he stood, in the most flourishing times of the institution at Yverdon, to the whole family as their adoptive father, and to his earliest disciples as their paternal friend. The highest romance of friendship, to which a poet's imagination ever gave birth was realized in his intercourse with Niederer and with Miss Kasthofer, afterwards Mrs. Niederer, not by the indulgence of an idle and fantastic sentimentality, but by the enjoyment of that genuine intimacy, which results from union in a higher bond. This, however, is a point on which no pen can do him more justice than his own. When Miss Kasthofer had come to the determination of devoting her energies to the interesting task of applying

her views and principles to the education of her sex,* Pestalozzi wrote to her, after an interview on the subject, with all the enthusiastic warmth of his feelings:

"Thou saidst to me 'My father!' and thou gavest me the privilege to say, to thee 'My daughter!' My soul delights in that name, and delights still more in the thought of contributing to the happiness of thy life. Were I confined within the limits of my earthly days, I should have doubts and fears lest that delight should never fall to my lot. But the look of hope thou hast directed towards me, reaches beyond those limits. It is in my disciples, it is in my cause, that I live indeed; and I am sure, as I am of my own existence, that my calling will be thine, and those that are united with me, though at present they know it not, nor perceive it, will be united with thee also. And in the days when I shall rest in slumber, separated from the world, in the arms of death, thou wilt delight in the remembrance of me, and find bliss in the labours of a cause which already fills thy soul with rapture, which has gained me from thy lips the paternal name. Thanks, ceaseless thanks, be to thee for that endearing title; mayest thou receive from me, with equal delight, the name of daughter! The influence which thou canst and wilt exercise upon the work of my life, by those pure and lofty gifts wherewith God has adorned thee, shall be to me, on my deathbed, a source of consolation and confident hope for my cause, even as the influence of the noblest and best of my sons."

To this almost feminine effusion, the manly tone in which he represents his relation with Niederer forms a fine contrast:

"Niederer has indeed peculiarities, which, being directly opposed to mine, I find it sometimes difficult to endure. But his friendship is beyond all that I have ever experienced, or even dreamed. What more can a man do for his friend, than for his sake to abandon a well-secured, tranquil, and satisfactory existence, and to place himself in a position full of uncertainty, disappointment, difficulty, and danger? This is what Niederer has done for me. For my sake he has left the church over which

* The results of her experience, during long-continued successful labours in that cause, were embodied by her, a few years ago, in a work published at Berlin, under the title: "*Blicke in das Wesen der weiblichen Erziehung*;" of which some extracts may be found in the "Christian Monitor, and Family Friend."

he presided, an active, happy, and greatly esteemed pastor of his flock; he has joined me, and embraced my poverty and my embarrassments, at a time when my cause was not yet matured in myself, and when I was almost entirely destitute of external assistance for its further pursuit. At that period he was the only man, who had a claim to literary education, that stood by my side, and exposed himself to all the dangers which his participation in my undertaking necessarily involved. His friendship, above all personal interests, is devoted to the object of my life, that object, respecting which I have, during the course of my career, so often found myself without any one to befriend me. The generality of my friends were only interested in my personal welfare; their assistance was too often proffered as oil poured into my wounds; it never occurred to them to support the energies of a man in the prime of his strength under the discouragements of an arduous undertaking. Their life had little in common with mine. They afforded me happy hours of friendship, such as I shall never enjoy with Niederer, but they were hours of merely personal sympathy. I shall never forget them, nor shall I ever be ungrateful to those, who have laid me under so many personal obligations. But the debt I owe to Niederer is altogether of a different kind. Our personal characters are most dissimilar. I might almost say he falls short, in this respect, even of the common sympathies of men dwelling near one another. But his friendship is in his whole life; in his persevering efforts in the service of my cause; in the constant struggle which he sustains against himself, in order to fit himself more and more for its service; even his opposition to me, whenever he finds my personal wishes or inclinations at variance with my purposes, proves the noble, pure, and uncommon character of his friendship. He struggles hard only because he loves much."

The following letter, written on the wedding-day of these his two "first children," is still more characteristic:

"My friends, joined together from this day for evermore; and if it please God, for ever united with me!

"On this your wedding-day let not one thought be found in my soul that might cast the shadow of a cloud over the bright heaven of your sweetest and holiest hour. Let me think of you all the day; let me remember what I ought to be, and what I ought to do, that you may be happy with me till the day of my death; oh, and let me fancy all that you can and will be, to make me happy with you to my last hour. O Niederer, O my dear Kasthofer, let us not abandon ourselves blindly to our fate, but let us unite and conquer whatever of wrong and evil may come in our way! Let us join hand in hand for this purpose; but let us

not expect from each other such assistance as it is not severally in our power to give. God has given to every distinguished individual a peculiar nature, within the limits of which he is to seek after perfection, but beyond which he cannot take one step, except to his own great hurt. Niederer, thy sphere is great, it is sublime; acknowledge its limits, and never outstep them; and I too will acknowledge the extent of my sphere, and endeavour, by keeping within its limits, to preserve my union with thee. And thou, generous soul, who celebratest this day the holy festival of thy destination, intercede thou between us with thy meek and lofty spirit, if either of us should offend or wrong his brother; let thy gentleness reprove us, if the delusion of any phantom should obscure to our minds that eternal truth in which our hearts are knit together, if misunderstandings should unfit us for the great and sacred object of our union. Dear, dear Niederer, let us have faith and hope, let us exert ourselves in our career to the best of our power, and leave all care for the success of our labours to him who will bring forth their fruits in due season; to him who guides the destinies of all mankind, and who forsakes not one of those that put their trust in him. O my dear friends, may the blessing of this your solemn day become a rich source of blessings to our work, to our institution; may it be the means of giving us the victory over all the obstacles, by which the great end of our lives is obstructed.

Receive the blessings of my everlasting love to you. May you soon return, the blessed of the Lord, and my joyful and loving children, into the arms of your father, who is old and weak, but whose love is persevering even unto death!"

CHAPTER IX.

*Pestalozzi, the Father and Priest of his House—
A Christmas-eve Discourse.*

THE spirit in which Pestalozzi presided over his house cannot be better described than by his own words, in the discourses which he addressed to the whole family every Christmas-eve and New-Year's day. One of these, delivered on Christmas-eve, 1810, will not be read without interest, as it is not only a faithful expression of the tone which he maintained in his establishment, but affords, at the same time, a pleasing picture of that peculiarity of continental custom, by which Christmas-eve and New-Year's day are consecrated as the two great family festivals.

"Children, sons and daughters of this house, and ye matured men, my friends and brethren!

"What is there in this day that calls for rejoicing? For nearly twice ten centuries, this hour has ever been an hour of gladness! Is its joy, peradventure, worn out with age, and do we possess no more than the dregs and forms of its sacred solemnity? If so, I would rather not partake in it; I would not rejoice, but mourn, in this hour of ancient joy. And I ask: That ancient joy, what was it? And I look around me, to see what it is now. I have heard of the ancients, and I have partly seen it in my own days, that Christmas-eve was a night on the earth above all earthly nights. Its shades were brighter than the noonday of highest earthly joy. The anniversaries of national emancipation from the thralldom of tyranny were not to be compared to that heavenly night, the night of heavenly rejoicing. Through the holy silence of its service resounded the words: 'Glory to God in the highest, and on earth peace, and unto men purity of heart.' It was as if the angels were again gathering together over the heads of men in that hour, praising God that a Saviour was born unto the world. Oh! in those days, Christmas-eve was indeed a holy night, whose joys no words

can describe, its bliss no tongue declare. The earth was changed into a heaven every such night. God in the highest was glorified, on earth there was peace, and gladness among the children of men. It was a joy flowing from the innermost sanctuary of the heart, not a joy of human affection. The joys of human affection are tied to place and outward circumstances; they are individual joys. But the joy of our ancient Christmas-eve was a universal joy, it was the common joy of humankind; for it was not a human, but a divine rejoicing.

"Friends and brethren, and ye, my children; O that I could lead you back to Christendom of old, and show you the solemnity of this hour in the days of simplicity and faith, when half the world was ready to suffer death for the faith in Christ Jesus!

"My friends and brethren! Oh that I could show you the joys of Christmas-eve in the mirror of those days! The Christian stood at this hour in the midst of his brethren, his heart filled with the Holy Ghost, and his hand with earthly gifts. Thus stood the mother among her children, the master among his workmen, the landlord among his tenants. Thus assembled the congregation before its pastor; thus the rich entered the cottage of the poor. This was the hour in which enemies offered each other the hand of reconciliation, in which the heavily laden sinner knelt down, praying in tears for the pardon of his transgressions, and rejoicing in his heart that a Saviour was born to take away sin.

This hour of heavenly joy was an hour of sanctification; the earth was a heaven-like earth, and, though the dwelling-place of mortal man, breathed the breath of immortality. Death and sorrow seemed to have departed from the earth. The holy joys of that night lightened the burdens of the poor, and eased the pangs of the wretched. Prisoners, who had long been shut out from the light of day, were liberated on that night, and returned as if led by an angel of God, to their desolate homes, to their wives and children; who were kneeling, weeping, and praying for their deliverance; for the heart of the judge had softened itself in the joy, that to him too a Saviour was born, and it had grown milder towards his fellow man, his enemy, and his captive. Even the criminal under sentence of death, whom no human power could rescue from his fate, was more kindly treated; words of peace, words of life everlasting, instilled comfort into his trembling nerves. He felt not merely his guilt and misery; he felt the pardon of iniquity, and when his hour drew near, he went to meet his end with manly composure. Many thousands entangled in debt by the necessity or the weakness of life, and persecuted by the arms of the law with merciless rigor, obtained in this sacred interval remission of their debts from the more generous feelings of their creditors, who, in the joy of having a Redeemer born to them, became themselves the redeemers of unfortunate debtors.

"Oh, what a night was Christmas-eve to ancient Christendom! O that I could describe its blessings, and your hearts would be moved to seek God's

Holy Spirit, and your hands would tremblingly give and receive human gifts sanctified by the solemnity of this hour; for you would remember, that in this hour was born unto you Christ the Saviour, and you would rejoice in him with a holy joy.

“O that Christ Jesus would now appear to us in spirit! that we might all be like unto our children, to whom the invisible love of God is made manifest in the Christchild* under the form of an innocent babe, like unto them in appearance, but descending from heaven with pleasant gifts. Oh that the joy of this hour, wherewith we rejoice over the birth of our Saviour, could enable us to see in spirit the divine love of Christ Jesus, giving himself up to death to be a ransom for us. Let us rejoice in the hour in which he was made flesh, in the hour in which he brought into the world the great gift of his death to be deposited on the altar of divine love. From this hour was he the Lord's High Priest, the victim for our sins.

“My friends, my brethren, and sisters! let us pray: ‘Bring back, O Lord, bring back unto the world those happy days, when mankind were truly rejoicing in their Saviour Jesus Christ, and in the hour of his birth. Bring back unto us those times, when at this hour the hearts of men were filled with the Holy Ghost, and their hands with gifts of brotherly love. O heavenly Father, thou wilt bring them back if we seek for them. And, as one of old asked Jesus Christ: ‘Lord what must I do to be saved?’ even so let us ask: ‘Lord, what must we do, that Christmas-eve may bring unto us those blessings which it brought to the Christian world in its better days? what must we do that the joy of Christmas may be an universal joy to our house, as it was in the days of old to all mankind?’

“It is by answering this question, my friends and brethren, that I will endeavour to edify you in the solemn moments of this festival, so sacred to the Christian's heart.

“My friends, my brethren! the joy of Christmas was to our fathers an universal joy, the common joy of humankind, because it was the joy of holy and heavenly love. In like manner in our house, the joy of Christmas will become a universal joy only if it become among us a joy of holy and heavenly love. The fellowship of love is the only true source of fellowship in rejoicing; its divine power alone can break the bonds by which joy is restrained in the human breast. In the absence of that love, our joy is only the joy of individuals in single objects, in whose excitement selfishness is

* Christmas-eve is abroad as here, the time when children receive gifts of every kind from their parents, godfathers, &c.; but instead of “Christmas boxes,” they are “Christmas trees,” young fir-stems, lighted up with little wax-tapers, on the twigs of which all the glittering gifts are hung. The preparation of the “Christmas tree” is a family mystery, and if the child ask from whence all the goodly things come, the answer is, “The Christchild brought them.” B.

enthroned. The troop of the joyful is separated from the multitude of the mournful; and the latter are left to their fate without one feeling of sympathy, while the former, full of envy and anxiety, are jealously guarding the sources of their joy, lest any of those that are rejoicing with them should divert its streams into their own channels. Such is the joy which, fettered by the bonds of human selfishness, is unable to rise into a holy and divine feeling.

“My friends and brethren! wherever the fellowship of love is wanting, the fellowship of joy is precluded. If, then, we desire to make Christmas-eve a festival to our hearts, as it was to the hearts of our fathers, the fellowship of love must first be established and secured among us. But this is wanting wherever there is not the mind of Jesus Christ and the power of his Spirit.

“My friends and brethren! unless that mind and that power be in the midst of us, our house will prove to be built on sand. In vain shall we seek for the fellowship of joy, if we have not that of love.

“My friends and brethren! if there be no other but human and temporal ties to bind us, we are inwardly divided already, and our external union will and must be broken up, as a spider's web by the strong wings of a wasp, or by a gush of wind.

“My friends and brethren! it is no small thing for men to be united for a holy purpose. They must sanctify themselves in their union, that their purpose may remain to them a holy purpose, and that the work of their hands also may be holy. But it is far more common for men to corrupt than to sanctify themselves by their union.

“My friends and brethren! let us not overlook the dangers of every union between man and man. Wherever men unite in their human capacities, their union will not lead to their purification or sanctification. It is only where a divine life forms the tie of union, that man by his union with other men can become purified and sanctified; but the union in the tie of a divine life is only possible by the fellowship of the mind of Christ and the communion of his Holy Spirit. Whoever has not the mind of Christ, nor his Spirit, will not be ennobled by any union with man. Let us not be blind, therefore, my brethren, to the dangers of our union. They are great, very great. It is the work of thy mercy, O Lord, that they have not ensnared us already. For how variously has in our union the human nature of the one attached itself to the human nature of the other! how manifold has been among us the fellowship of weakness! Have we not endeavoured each of us to make the weakness of others a cloak wherewith to cover his own. Oh, how little has the success of our undertaking effected towards raising us to a higher state, and strengthening in us the power of divine grace! How often have we rejoiced with a merely human joy, unsanctified by the divine Spirit, in that outward success which became the more illusory as we took a merely human view of it! O Lord, how little

have we been strengthened, and how much have we been enfeebled, by our prosperity. My friends and brethren! let us not conceal this matter from ourselves; the history of our union is nothing else than the history of the merciful dealings of divine grace, with the weakness of men united together for a holy purpose. We have pursued this purpose after the fashion of men, but the Lord has blessed our labours with the blessing of heaven. Of that blessing we have proved ourselves unworthy, for in the midst of his loving kindness towards us, our weaknesses not only remained the same, but they were often increased.

“My friends and brethren! the days of our prosperity have not, as they ought to have done, prepared and strengthened us for the days of adversity; and yet adversity must necessarily come upon us, lest we should be subdued by our human weaknesses, which are in open conflict with the divine purpose of our union. My friends and brethren! are we to give way to those weaknesses of our human nature, and see our house stride on towards dissolution; or shall we, by elevating ourselves above them, save our work from destruction?

“My friends and brethren! is the coming Christmas to be to us a day of deep mourning, or a joyful day of triumph, to celebrate our conquests over ourselves and our infirmities? The decisive moment is come. We must no longer rely upon outward prosperity for the success of our undertaking; for there is no prosperity that can now become really conducive to its progress; nothing but righteousness can any longer advance the object of our union. You are left, my friends, almost without a leader. My strength is gone. I am no longer an example for you of what you ought to be day by day, as members of our family. Your task is an important one. You are to educate yourselves as well as the children entrusted to our care. You are to resist the world and its vain works, and yet you are to satisfy men who have grown greyheaded in its vanities. You are to pave a new road through impervious tracts, and to walk on it as if it had been paved long ago. You are to act the parts of youths in your development, and that of men in your position to the world.

“My friends! our meeting together was on a less high, it was on a human ground; nor has our temporal connexion raised us to such an elevation; and yet it is indispensable for the attainment of our end, that we should rise to that point.

“Oh my friends, my brethren! in what a sublime light does this purpose present itself to my view. O that it were possible for me to present it to you in the like manner as I did the Christmas joy of our forefathers! The purpose of our union is not founded upon our human nature, but upon the divine spark implanted within it; it is on this account that it embraces the whole of humankind; it is a universal purpose, because it addresses itself to that divine seed which God has universally deposited in the hearts of men. Our means likewise are not derived from our human nature; they

emanate from a divine life within us. So far only as we are alive to that purpose in its divine character, so far as it is unfolded in us by divine means, so far only has it in us a real foundation; and it is so far only, that the attainment of it can become to us a source of universal peace and tranquillity.

“My friends and brethren! if that be wanting among us, our union for the purpose of education is no more than a vain dream; from which when we wake, we shall find our eyes filled with tears.

“My friends and brethren! if we be united by no better tie than that which binds men together in the vanity of their common pursuits, our union will share the fate of all vain human associations. The fetters of this vain world will then keep our union in an unholy bondage, and we shall sink, as man always does in union with man, except he be raised above the degrading influence of merely human relationship by sanctification in a divine bond. Mean selfishness will then preside among us, as it presides every where in human society, and it will cause our union to perish in itself, like a house thrown on a heap by an earthquake, in the same manner as it has ruined before thousands of human associations. Fix your view upon this prospect, my friends; do not turn your eyes from this picture. How should we feel if all this should be fulfilled in us? Oh! do not turn away your eyes from this picture of truth. If ever we should be overcome by our own weakness, and obliged to separate; if any of us should forsake the common cause and look to their private interests, some in the apparent calmness and satisfaction of selfishness, and some in the selfish sorrow of weakness; if we should part from each other; if those that are strong among us should abandon the weak ones to their fate; if any of us should become intoxicated with the narcotic of vain glory, or should endeavour for the sake of contemptible gain to obtain for themselves the credit due to all. My friends and brethren! is it possible for you to place this picture of dissolution, degradation, and ruin, before your eyes, and not to feel a sacred determination kindled in your bosom, to do all in your power to avert the day of such a calamity?

“It is impossible, my friends, my brethren, that you can be indifferent to that prospect: you will, I know you will, be elevated and united. Oh! let us deliver ourselves and our cause from danger, by elevation and unity of spirit. Can we do otherwise? Could we have cherished for years the idea of raising the condition of the people by a better education, and now allow it to sink into oblivion? Is it possible for us to forget those sacred hours in which our hearts were filled with pious enthusiasm at the recollection of our great purpose; those hours in which, separated from the world, and firmly united among ourselves, we acknowledged each other as devoted instruments of that purpose, and gave each other the solemn promise, which also we have openly declared before men, that we would consecrate ourselves to the holy cause for which we are called, and assist

each other in its pursuit, until every one of us should have obtained strength and ability to pursue it by himself, independently of any farther assistance? Who that has for a moment felt in his bosom the spirit of our union, could consent to abandon the least among us that is truly attached to our cause, instead of lending him a helping hand, and leading him to become a mature instrument for the common purpose. Is it possible to see our blooming youth, whom none can equal in cheerfulness, in native wit, in intelligence and practical acquirements, in physical power and agility, whose whole education is so evidently superior to that commonly imparted, and not to mourn at the thought that our union should ever be dissolved? Is it possible to view the improvements produced in the method of instruction, by rendering it conformable to the nature of the human mind, and to be indifferent to the idea that the experiment, out of which these improvements arose, should be interrupted? No, it is impossible. I know you, and though I may have to complain of much frailty among you, yet I am sure, that many of you would rather die, than suffer the blessed fruits of our union to be arrested in their growth by your failings.

"No, no! my brethren! let the voice of union be raised among us with a shout in the solemn hour of this festival: the voice of that union which has raised us to the privilege of becoming the servants of our brethren. Let us be faithful to that union, let us not depart from the path prescribed to us by the love of mankind. Let our object be now and for ever, to consecrate ourselves to our holy calling, and to remain faithful to each other in co-operating for the attainment of our great purpose; to remain faithful to the beloved children who grow up in the midst of us, in the flower of youth; to remain faithful to truth and love in all the means that we adopt; and in the whole sphere of our exertions to preserve purity of heart.

"My friends and brethren! let this day, consecrated to the remembrance of a Saviour's birth, be the day of a holy renovation of our union! let it be the day of a holy renovation of ourselves for the purposes of our calling! let the joy that Jesus Christ came in the flesh, be one with the joy that we are united in his service; let our joy be the joy of faith and love in Him! Let the sacred, the divine character of our calling, raise us far above ourselves, and above the dangers of human weakness, which exist in our union as in the union of all our brethren. Let us be sincere with ourselves, let us not deceive ourselves by the vain jingle of words, let us not contaminate the holy night of our Lord by the delusion of selfishness! Whoever seeks in our union to serve himself only, let him depart from us! Whoever makes our union a scene for the freer indulgence of his weakness, let him depart from us! Whoever feels that in our union he grows more frail and faulty than he would have allowed himself to become elsewhere, let him depart from us!

"We are brought together by chance; it could not be otherwise; but let not chance keep us together like fishes caught in a net, who must all perish

together. No, no! the hour is come to separate the wheat from the chaff. The hour is come, when our union must cease to afford food for the wicked. It is enough! It is enough! The goodness of God has given to each of us a time of grace and long suffering. For those who have abused that time, it is now at an end, it must be at an end! Whoever does not serve the holy purpose of our union, whoever disturbs it by his presence, let him depart from us!

"My brethren! The ties of chance must this day be broken! No other tie can henceforth be suffered to exist among us than that of love and righteousness. Let us part rather than perish! We must either part and follow every one his own appointed way, or else we must stand together this day, before God and men, with one heart and one soul! resolved to follow our common calling. Such is our duty this day!

"My friends, my brethren! let us be faithful to that calling; let us cheerfully run our race together! I am the weakest among you, but I am ready to bring any sacrifice that may be required of me for the attainment of our holy purpose.

"My friends and brethren! be you also ready to bring those sacrifices which will be required of you! They will not be small. It is no small matter to put one's hand to the work of educating mankind; to stand forward among men, and to say: 'Come to us and see the great thing which we propose to do for improving the education of the human race, for benefiting the world, and securing the welfare of our species.'

"My friends and brethren! This is the view which has been taken of the object of our union, and we ourselves have represented it nearly in the same light. Feeling the corrupt state into which education has fallen, and suffering under its mistakes, the world has awarded confidence to the language of my enthusiasm, and has crowned us with laurel, when we had hardly begun to search after the means by which a beautiful dream might be realized. I was myself under a great mistake. I thought the way to my end much shorter than it actually is; while the incense with which we were perfumed, as well as the unexpected success of some unripe experiments, confirmed us in that mistake, and had a prejudicial influence on our union and our institution. The seeds of corruption began to unfold themselves among us. We contradicted one another with our unripe opinions in dogmatical arrogance, and ills began to spring up in our house, which, when the fashion of praising us had grown old, afforded the world an opportunity of abusing us, likewise as a matter of fashion. Our time of trial is come, but it is better for us than the hour of vain praise. Let us not deceive ourselves. The voice of censure is becoming severe against us, and times of trouble are at hand. My poor house! thy lovers are become thy accusers, and know thou that the accusations of lovers are severe, and that their blame will become a testimony against thee in the mouth of thy enemies. My poor house! thou art grown up as a beautiful flower of the field; the

gardeners envy thy beauty, because it shakes the faith of the world in their hothouses, and verily they will take vengeance upon thee !

“ My friends, my brethren ! despise not this time of tribulation ! Our gold will be purified, and the heat of the refiner’s fire will bring the dross to the surface ! The world will for awhile see nothing but dross, and will lose for a time all faith in the gold, which is underneath the drossy bubbles.

“ My friends, my brethren ! let not this offend you, but rejoice rather that your dross shall be separated from the gold of our holy cause. If the dross be permitted to swim on the surface, and all that is good and valuable among us be hidden from the eyes of the world, which cannot see beyond the surface, rejoice ye ! The hour of purifying will pass over ; the vain dross of our labours will be thrown away, and be lost like chaff in the fire, but that which is purified will remain. Think on this, pass it not over lightly ! Ask yourselves : ‘ What then will remain ? ’ much, very much, of what we consider as gold, is now boiling up with the dross. But be ye not offended. The gold of our cause is not to be found in our outward labours, in our outward success ; it is within you ; there you must seek it, there you shall find, there you must value it. Our cause can have no value to us, except that which we possess in ourselves ; and that value is great, it cannot be little, nor must we allow ourselves to lose it in the unstable estimation formed of our external undertaking, like a diamond in a heap of sand. No ! the intrinsic value of our cause is great. It requires an uncommon elevation of heart, singleness of sight, absolute submission to the guidance of Providence, indefatigable exertion, undaunted courage, constant self-denial, the humility of love, and the strength of heroes.

“ My friends, my brethren ! let us not deceive ourselves, our aim is one which heroes only can hope to reach. Whence shall we get that heroic strength of which we stand in need ?

“ My brethren ! remember that the strength of the Lord is made perfect in weakness. The Saviour came into the world, lying in a manger, a helpless infant ; and the glory of the only begotten of the father was declared unto poor shepherds that kept watch over their flocks.

“ May the holy reminiscences of this day inspire us with a high and holy courage for our work. My brethren ! if we are able to celebrate this festival in the spirit of our noble-hearted ancestors, in the spirit of genuine Christians, then are we capable likewise of accomplishing our work. The Lord Jesus has said : ‘ If ye have faith as a grain of mustard seed, ye shall say unto this mountain : Remove hence to yonder place ! and it shall remove. ’ My friends, if ye have faith as a grain of mustard seed, though obstacles should lie in your way like mountains, whose feet are rooted in the depth of the earth, and whose tops reach unto heaven, ye shall say to them : Remove hence to yonder place ! and they shall remove. My friends ! if we celebrate this holy festival in true faith, we shall in the same faith accomplish our task. Cast back your looks upon the times of old, and see

how this festival was celebrated by true faith. His heart filled with the Holy spirit, and his hand with gifts of human kindness, the Christian stood at this hour in the midst of his brethren. The solemn hour of heavenly joy was an hour of sanctification to our species. The earth was at this hour a heavenly earth. The dwelling-place of mortal man was filled with the breath of immortality.

"If we celebrate this hour in the spirit of ancient Christendom, in the spirit of better days that are gone by, our hearts will be filled with the Holy Spirit, as well as our hands with earthly gifts. Thus shall every one of us stand in the midst of his brethren, in the cheerful circle of our children. With the hand of kindness will we seek their hands, and their eye shall find in ours the beam of love. Then will the joys of this day be to us heavenly joys, then shall we be sanctified in the rejoicing of this hour. Then, my friends, my brethren, will our house be a heavenly house, and the dwelling-place of our weakness be filled with the breath of immortality.

"My friends, my brethren! the fellowship of our joy will then be a fellowship of love, and our house will no longer be built on sand. Selfishness and sensual appetite will then no longer rule over our pleasures, nor embitter our sufferings. Our union will no longer be disturbed, for heartless indifference will be banished from among us, and whoever sins against love, will stand confounded before the image of offended and weeping love. Then shall our union rest, not upon a human but upon a divine basis, and then it will and must become a source of blessing to all its members. The pangs of the suffering, the sorrows of the afflicted, and the burden of the oppressed, will then disappear. I may then adopt with truth the language of internal tranquillity, and say: 'I cast my burden upon thee, O Lord; thou wilt sustain me.' My friends, my brethren! our cause is secured, if the fellowship of love dwell among us. Oh heavenly Father, grant Thou us the grace of fellowship in Thy Spirit!

"All human fellowship disturbs the high fellowship of love, which is only to be found in a divine fellowship, and of this none can partake but those who have the mind of Christ Jesus, and follow after him in the strength of his Spirit.

"My friends, my brethren! let this holy night be consecrated by earnest prayer to God for the mind of Christ Jesus, and for the strength of his Spirit, that our house may be established, and the work of our calling accomplished in the fellowship of love.

"And you, my beloved children, who celebrate this Christmas in the simplicity of your hearts, what shall I say to you? We wish to be partakers of your simplicity, of your childlike joy. We know, that except we be converted and become as little children, except we be elevated to the simplicity of a childlike mind, we shall not enter into the kingdom of heaven, we shall not attain the fellowship of love, by which alone our house can be established on a sure foundation. Beloved children! it is for your sakes that we are

united in one family; our house is your house, and for your sakes only is it our house. Live in our family in the simplicity of love, and trust in our faithfulness and our paternal affection towards you. Be ye children, be ye innocent children in the full sense of the word. Let this festival establish you in the holy strength of a childlike mind. Behold Christ Jesus, the Saviour of the world; behold him with the graces of holy childhood at the bosom of his mother; behold him in the manger with the sweet look of holy innocence. Remember him, how he grew, and waxed strong in spirit, filled with wisdom, and how the grace of God was upon him; how he was subject unto his parents; how in fear and love towards them he increased in wisdom and stature, and in favour with God and man; how, being yet a child, he sat in the temple in the midst of the wise men, and astonished all that heard him by his understanding and answers; how grace and love never departed from him all his days; how he drew the souls of men towards him by the excellency of his life; how he took unto him little children, and declared their sweetness and simplicity to be the source of life everlasting in and with God; how his grace and love was made manifest in his sufferings and death, as the power of God to the salvation of mankind; how it forsook him not even in the last hour, that in the midst of its torments his lips instilled consolation into the soul of his mother. Oh, my children, may this solemn hour inspire you with that spirit of grace and love that was in Him, and may you be preserved in it all the days of your lives! We too, my children, stand in need of your grace and love, to nourish and to strengthen those paternal feelings, which we pray God that he may grant unto us, and without which we cannot render you any service of love and righteousness.

“Children, let the graces of childhood elevate our souls, and purify us of all contamination of anger, and wrath, and hastiness in your education. May your love animate our hearts and refresh our spirits, that we may not grow weary in the duties of our office.

“Children, I must conclude: I will again speak to you in a little while. For the present let it suffice. Children, young men, men, friends and brethren, let our Christmas be unto us a day of holiness! May God in heaven sanctify it unto us! Glory be to God in the highest, and on earth peace, and meekness of heart among the children of men! Amen!”

CHAPTER X.

*Pestalozzi as a Writer—The Swiss Journal—Address to my
Fatherland—Figures to my Spelling-book.*

As a writer Pestalozzi deserves no less than in other respects to be held in high estimation; for, although it must be admitted that his style is rendered difficult by the vagueness of his expression, and sometimes tedious by repetition, yet there are few whose works, labouring under similar disadvantages, have attained an equal degree of popularity, or been productive of a greater amount of good. His writings will not, it is true, be perused by the idle or the curious; but those who are alive to the importance of the cause which he advocated, and the value of his practical exertions while engaged in its service, will not be deterred by mere defects of form from following the track of so benevolent and enlightened a mind through the intricate and sometimes obscure paths on which he wandered, in the hope of enjoying the full noonday of that light, whose faint glimmers even, kindled in his heart the sacred flame of enthusiastic self-devotion. If we see a man during more than sixty years perseveringly engaged in the pursuit of one great object, and after repeated disappointments gathering each time new strength for renewed exertions, we can neither doubt that his zeal springs from an internal source of truth and love, nor can we be indifferent to the changes which his feelings and ideas must have undergone in the course of so

arduous a career. We shall not esteem it a light favour to be admitted behind the scenes and to watch in the development of his own mind the gradual victory of truth over innate darkness and imbibed prejudice.

The main topic of Pestalozzi's literary labours was to set forth and illustrate the principles, on the ground of which, he anticipated, rather than pretended himself to realise, not a mere improvement in the system of tuition, but a fundamental reform in the march of human civilization. But while his eye was steadily fixed upon the point in the heavens in which he expected the sunrise of a new era in the education of mankind, he was neither blind nor indifferent to the shades which the purple-tinged morning clouds cast over the earth around him. He was privileged to witness that long succession of gigantic events by which the whole aspect of the civilized world was changed, and which would have astonished and aroused any generation except the selfish and nerveless one to which the signs were given. Pestalozzi shared not the indifference of his contemporaries; almost every stage of the history of his times is marked by some word of warning or advice to his countrymen, who were thoughtless enough to expose the weak vessel of their republic to the furious waves and insidious eddies of the revolution. Among the numerous productions of his pen which have reference to the political position and the moral state of the Swiss at different periods, the most remarkable are his "Swiss Journal," which forms a prologue, and his "Appeal to the purer and nobler Feelings of his Countrymen," which may be considered as an epilogue, to the great drama; while his "Fables," or, as he called them, his "Figures to his Spelling-book," give a painful but true picture of the degradation into which human nature sinks when deriving its light from the fallacies of reason and putting its trust in the violence of brute force. The object of these writings was to draw the attention of the public to those deeper causes of the welfare or ruin of nations which are overlooked or underrated by "the craft" of

politicians, and to point out the existence of a moral order of things, overruling in retributive justice the shortsighted enactments of man.

The Swiss Journal, published in weekly numbers, on a plan similar to that of the Spectator, the Examiner, the Rambler, &c., contains essays, occasionally illustrated by anecdote, on the corruption of servants in great houses; on the temptations which surround females of the lower classes, and on the severity of the law against them, especially in cases of infanticide, contrasted with the impunity of their seducers; on the abuse of the law-forms for defeating the ends of justice; on the want of evenhanded justice between the rich and the poor, the man of connexions and the man without connexions; on the oppression exercised in levying rents and tithes on church property; on the demoralizing effect of the game laws in France before the revolution; on the hypocrisy of liberal sentiments among the privileged classes and their indifference to the real sufferings of the people; on popular education; on domestic economy among the lower classes; on the prevalence of honest principles in the legislative acts of former times, compared to the laxity and the compromising spirit of modern legislation; on the influence of different occupations on the character of the people; on the state of the peasantry and of the manufacturing classes; on the best interests of landed proprietors; on the disadvantages attached to commercial wealth; on parochial administration; on the corruption of high life; on medical police; on the destructive effects of quackery and superstition; on insanity; on the tendency of the penal laws by the mode of their administration to increase rather than to diminish the sources of crime; on the infamy of police spies and informers; on the organization of prisons; on the moral improvement of criminals; on the defects of charity schools; on the duty of society to secure to every individual the means of gaining an honest livelihood, and on a variety of other topics of a similar description.

On the anniversary of the emancipation of Switzerland from the yoke of tyranny in the days of William Tell and Arnold Winkelried, is inserted the following

“ADDRESS TO MY FATHERLAND.

“1782.

“Their armies are annihilated, their castles are broken; the ruins of their bulwarks rolled down into our valleys: the contest is decided.

“*Thou art Free!*

“Thus spake to Helvetia her guardian angel, on the triumphal day of her liberty.

“‘But suffer thy people to enjoy this freedom in all the purity in which I now give it to thee, or it will be taken from thee,’ added the guardian angel, with menacing countenance, with a frown on his brow, and a cloud over his eye.

“Helvetia’s sons understood the warning of the oracle, and lived for centuries, like brethren, in their mountains and vallies.

“Now and then, it is true, a spark of discord began to glimmer, but the guardian angel extinguished it speedily, for the men of Helvetia lived as brethren, and the children of the great and noble walked hand in hand, and arm in arm, with the children of the peasant, who being free was equally noble, though not of blood. None of the confederates said to another: ‘Thou art inferior to me.’

“Our people feared God, and loved their rulers; for they were the sons of the guardian angel, the nursing fathers of our liberty.

“Our people were manly and strong, faithful and true, plain spoken and upright, industrious and happy, sober and merciful, and blessings rested upon the mansions of the great and the cottages of the humble.

“The highborn Helvetian was as one of the people, and the common man was high-minded, for both were prosperous and contented.

“Guardian angel of Helvetia, show me once more the sires of thy land. Cause to appear before my eyes the image of the founders of our union and liberty.

“I see them; men of high stature, with majestic beards flowing down to their girdles, and mighty swords hanging at their sides; but their countenances friendly and cheerful; their arms scaled with iron, but ever ready for the embrace of pious affection; their hands terrible in the battle, but faithful in promise; they live for those whom they love, and die for those to whom they have sworn.

“I see them, the sires of our Union, assembled in the temple of liberty; the glory of Helvetia’s guardian angel shining in the darkness of the sanctuary; the sires of the Union, prostrate on their knees, vowing before God and all the saints, everlasting freedom to their fatherland.

“And a voice resounds through the vaults of the temple—

"The laws of your cities, the laws of your land, are the guarantees of your liberty! Kneel, ye sires, and swear again! And the men of Helvetia knelt again, and swore obedience to the laws of their cities, to the laws of their land.

"And their oath re-echoed three times from the vault of the temple, and three times the glory of the angel in the sanctuary shone as the flame of the heavenly sun.

"And the sons of the sires that were in the temple remembered for centuries the miracles of the day when the oath of their Union was sworn.

"And the generous mothers of the land taught for centuries to Helvetia's children the prayer of their sires, which they offered up to God, at the appearance of the angel of freedom in the temple, and the hymn of concord which their sires sung when they embraced each other in the brotherly love of that day.

"Sanctify, O Helvetian, the memory of that day! prostrate thyself in gratitude before the guardian angel who taught our fathers for centuries to grant the blessings of freedom to the people of Helvetia, and to tender the hand of friendship to the meanest citizen, that he might feel himself the beloved and befriended, honoured and protected son of his country.

"Guardian angel of Helvetia! during centuries thou causedst our fathers to respect and to obey the laws of the land, according to the oath of our sires! They required nothing of their country, for they wanted little and were contented with their own.

"Guardian angel of this country! during centuries thou madest our fathers willing to sacrifice themselves for the good of the land, and to found the dignity of their families upon the moderation of private life, considering the public weal as the best guarantee of domestic happiness, and the dissipation of fashion as the ruin of both.

"Guardian angel of this land! during centuries thou causedst the fathers of Helvetia to regard above all the claims of public morality, and to view with contempt the children of wantonness, born for a curse to the world in the palaces of courtiers and favorites.

"During centuries Helvetia flourished under the rule of men, who never said to the people: 'we are your kings!' nor ever polluted the ears of their children, nor the ears of the people in the cities and in the country with the wicked cant of that speech.*

"Peace and concord, happiness and joy, piety and simplicity, courage and faithfulness, justice and love, obedience and wisdom, united men of different ranks in ancient Helvetia into one body.

* This is not directed against royal authority, as by law established, which Pestalozzi duly respected, but against the vain pomp with which some of the Swiss aristocrats of that time mimicked royalty. As a republican, born and bred, he was of course fully impressed with the inferiority of a monarchical government.

"Guardian angel of this land! before thy altar the poor and humble Helvetian knelt by the side of the great and the rich, who was his benefactor and his father, and they united with one accord in the thanks-offering of liberty.

"But now—oh! hide thy countenance, and mourn, thou priest of liberty; thy altars are without a gift; the people of Helvetia are burning incense on the altars of strange gods! the people of Helvetia have become as the starving people in the lands of the kings round about them, and they plead, in the anxiety of hunger and destitution, for the smallest fragments that are left of their much-modified and qualified rights: the sons of those men who knew nothing but their fatherland, now know nothing but themselves, and become every day more precise about matters which concern the honour and interest of their families, while they forget the honour and interest of that country, to which their families owe their existence and their glory.

"Hide thy countenance, O priest of liberty; the people of Helvetia sacrifice on the altars of false honour, on the altars of avarice and dissipation."

"Wicked men quibble with the laws that our sires have established; and the sons of the nobles, and the sons of the rich, cast off the sons of the people, and say to them: 'we have no communion with you, for we are the sons of your kings whom ye serve.' Yet among the people of Helvetia, among those that are cast off, there are men whose sires sat upon the thrones of the land in the day of union and liberty.

"Guardian angel of Helvetia! appear, oh appear again, and be gracious unto us, as thou wert gracious unto our fathers!

"Show thyself again in the glory wherein thou shonest on the day of union and liberty.

"He comes, he comes, the guardian angel of liberty! I behold him! but his countenance is veiled, his eye filled with tears; and with a deep and mournful tone resounds, through the mountains and valleys, the warning voice of the God to whom Helvetia is dear!

"Ye men of Helvetia! what were ye in the day when I gave freedom to your land, and what was it that you wanted then?"

"Ye men of Helvetia! return to what you then were, and seek no more than you wanted at that day! You are not the sons of kings, ye nobles! and ye, children of the land, return to the hearts of your fathers; regain the hearts of those that are erring among the sons of the nobles, for to their sires you owe a debt of gratitude, of love, of fidelity.

"Children of the land! strive not with your fathers; regain their hearts by love and faithfulness, by gratitude and obedience!"

"Guardian angel of Helvetia! raise thy voice louder, and let thy words be heard on every mountain and in every valley!

"Ye men of Helvetia! flee discord, for by discord you sink to the level of the countries who divide their bread with their kings.

"Ye men of Helvetia! great and small! industry and zeal in the service

of your country established your houses; depart not from the fashion of your forefathers, and from the duties of your stations: let your houses flourish for ever by industry and zeal in the service of your country.'

"Guardian angel of Helvetia! still louder raise thy voice; send it as the voice of thunder from mountain to mountain, and from valley to valley; cause the hearts of the upright to throb! Let Helvetia's nobles, for the sake of their country, remain lowly as the people, for evermore; let Helvetia's people continue in gratitude and faithfulness to the fathers of the land, in all simplicity and uprightness; let our nobles remain faithful to their country, and grateful towards the people from whom they have received greater good than it is in the power of any king to bestow.

"Guardian angel of the land! raise thy voice, and send it as a voice of thunder from mountain to mountain, and from valley to valley, that they may know that freedom belongs to the people, and that the guardians of freedom owe fidelity without a breach to the land and its law. With a voice of thunder declare the great truth, that the liberty of all is in the protection of the rights of all.

‡ "Angel of liberty, defend us! Oh, defend for ever this small spot of earth in the hands of this people!

"Guardian angel of the land! preserve the rulers of Helvetia, that they may never cease to be the fathers of the people, and that the universal tie of the fatherland may bind us more and more firmly together. Oh! raise us up again, and kindle the last spark of patriotism that is left in our veins into a mighty flame when danger lurks behind our mountain-passes, and wild torrents threaten to inundate our peaceful fields; then kindle the remaining spark of our ancient fire into a sacred flame, that we may battle and die for the fatherland, Helvetia's faithful sons!"

The voice of this appeal reached not the hearts of Helvetia's children; the ambition of those that had, and of those that coveted, power, involved Switzerland in the horrors of the Revolution; and tyranny, feeling its end rapidly approaching, became more hideous in the unnatural effort of its last struggle. The heat of parties rose with every day, and Pestalozzi, who had given up the hope of reclaiming his countrymen from the precipice, to the borders of which he saw them hastening, depicted the feelings and ideas which the development of events suggested to him, in a series of allegorical tales, published under the title "Figures to my Spelling-book, or to the Elements of Thought." The spirit in which they originated, is thus characterized by himself in the first fable:

"The Painter of Men."

"He stood at his easel, and the people thronged round him, and one of them said: 'So thou hast turned painter? Verily thou hadst done better to mend our shoes.'

"And he answered: 'I would have mended shoes for you, I would have carried stones for you, I would have drawn water for you, I would have died for you, but you would not have any of my services; and therefore, in the compulsory idleness of my despised existence, what else could I do but to learn painting!'"

A few more of them will not be read without interest:

"The Mushroom and the Grass."

"The mushroom said to the grass: 'I spring up in one moment, while thou must grow for a whole summer, in order to attain what I am in an instant.'

"'Very true,' replied the grass, 'before I am worth any thing, thy perpetual worthlessness may spring up and perish hundreds of times.'

"The Storm and the Snow-Flake."

"The storm tore here and there a branch off the trees, but, when it ceased, there fell, without a breath of wind, a snow whose little flakes broke thousands of branches to one which the storm had torn down.

"The Blue Sky and the Clouds."

"A peasant boy took umbrage at the clouds, and said to his father: 'I wish they would not again cover the beautiful blue sky!' And the father answered: 'Poor child! what do you get from the fine blue sky? It is the grey clouds that bring us blessings.'

"The well-watered Land."

"'What a blessed valley this must be!' said a man, who saw a great many springs sending their waters into it from the neighbouring mountain.

"But a man who lived in the valley, said: 'We have too many fountains, they convert our plain into a morass.'

"The Dignity of Tools."

"Tongs, hammer, and file, boasted against all other iron: 'Our master, the smith, arms his right hand with us, when he forges you.'

"All iron was silent, but an old horse-shoe replied: 'I have once heard a king say, that of all men there were none he despised so much as those whom he must hire for the purpose of laying hold of the others, and hammering and filing them.'

"The Flame and the Tallow."

"'I am always ashamed to see myself so near to thee,' said the flame to the tallow.

"The tallow answered: 'I thought thou wast ashamed of losing me, because then thou always disappearest.'

"'Foolish grease,' replied the flame, 'it is true that I shine only as long as I live upon thee, but I am ashamed of letting it be known.'

"The old Tower."

"An old tower was going to ruin; every day there were tiles and bricks falling down from it.

"A poor driveller that dwelt in it, vexed that he could no longer conceal the state of his tower from the passer by, had the rubbish that fell from it during the day, gathered together every evening, and laid up in a dark corner.

"A neighbour, seeing this, said: 'That will not prevent thy tower from falling, friend!' 'I know it,' said the other, 'yet I must clear the ground of all this rubbish.' And his neighbour answered again: 'But that will do the tower no good.'

"And he replied: 'I know it well, but pray let me alone, and don't tease me with such remarks on my misery. I am contented if nobody sees it.'

"The neighbour said no more, but gave him a look of pity. He understood the look, and added: 'I am at last contented, even if I can but persuade myself that nobody sees my misery.'

"The Cock-Crowing."

"Master AVARICE.—'Why does the cock always crow before thou risest?'

"Labourer CHEERFUL.—'That I may have a moment to think as a man, before I must work like a brute.'

"Not Yet."

"The waters rose higher and higher, and there was no hope for the village, except by opening the dike which protected the park, and abandoning all its partridges, and hares, and stags, to the fury of the waves.

"The tenantry stood entreating their landlord. 'Not yet,' was his answer. The danger increased, and the people knelt down before him, and cried: 'We shall all perish with our wives and our children, unless you permit the dike to be cut open.'

"But the landlord loved the beasts in the park, and the people in the village he knew not. Their prayer, therefore, appeared to him a guilty indifference to the preservation of his park, and their kneeling before him a reprehensible importunity. He shook his head, and said angrily: 'Not yet;' and once more, 'Not yet' was on his lips, when the dike broke, and the waters filled the park and swallowed up both beast and man.

"The Lesson which the Ape learned from the Serpent."

"A young ape was meditating a long time and could not find out what humility was; at last, seeing a serpent crawling on his belly, he said to his mother: 'To sneak thus through the world without hands or feet, is, I suppose, what they call humility?'

"The Oak and the Grass."

"One morning the oak said to the grass which grew under its branches: 'Thou art very ungrateful not to acknowledge the blessing which thou enjoyest, of being covered in the frost of winter with the leaves which I shake off in autumn.

"But the grass replied: 'Thou deprivest me, with thy branches, of my share of sun, dew, and rain, and with thy roots of my portion of nourishment from the ground; boast not therefore of the almsgiving of thy foliage, with which thou art obliged for the sake of thy own roots to cover my lingering existence.'

"The two Pastures."

"The one was rich, but the flock was tormented in the day by grinning apes, and frightened at night by lurking foxes.

"The other was dry and poor, but no ape disturbed, and no wild beast attacked the animals that fed there.

"And the sheep having tried both, entreated their shepherd, saying: 'Dear shepherd, lead us never again to that rich pasture; for we would rather starve a little, being undisturbed and safe, than fill our bellies under perpetual annoyance and danger.'

"Hens, Eagles, Moles, and Mice."

"The hens boasted of their sight, and said to the eagle: 'Even the smallest grain is clearly distinguished by our eyes.' 'Poor hens,' replied he, 'the first mark of an acute sight is not to see those things which strike a hen.' The moles also spoke: 'This dreadful sun is the death of all light; and, in fact, there is no clearness at all, except here underground.' And the mice applauded loudly, and prayed to Jove: 'Avert from us for evermore the dazzling rays of the sun, and grant us the quiet light of our holes.'

"Toby the Drain-Digger."

"Toby, having inherited a swampy farm, drained it well in all directions; but when the land was dry, he cultivated it miserably.

"Yet he lived and died a great admirer of his skill in agriculture, of which he considered the art of draining the most essential branch.

"Christopher and his Watch."

"'If I set thee going thou wilt wear out, and in winding thee up I might overwind thee,' said Christopher, to whom a watch had been bequeathed; and after mature reflection he settled: 'Thou hadst better stand still, even at the risk of thy rusting.'

"The Privilege of the Fishes."

"The fishes of a pond complained that they were, more than their neighbours in other ponds, persecuted by the pikes. Whereupon an old pike, who was the judge of the pond, pronounced this sentence: 'That the defendants, to make amends, should in future permit every year two common fishes to become pikes.'

"Equality."

"A dwarf said to a giant: 'We have equal rights!' 'Very true, my good fellow,' replied the giant, 'yet thou canst not walk in my shoes.'

"Alderman Big."

"Alderman Big came drunk as usual from the tavern, and met in his way Mr. Small, master tailor, who was drunk also. The alderman, indignant at this sight, said to his beadle: 'Beadle, put me up against the wall, and take Master Small to the watchhouse, agreeably to the laws of the city, Statute Book, p. 71.' The beadle did as the alderman had directed him, and took the tailor to the watchhouse, agreeably to the laws of the city; and after this he returned and led Alderman Big home to his wife, agreeably to the privileges of the same city.

"Where shall it End?"

"His sire trusted in his armour and his sword;
His grandfather in his fist;
His father in his tongue;
He trusts in his quill:
In what shall his son trust?

"The two Magistrates."

"'I am again weary to death, and yet they are not satisfied,' said a grovelling magistrate at the close of his session.

"And another, who understood the art of governing excellently well, replied: 'I, on the contrary, am never fatigued, and yet they are always contented with me.' The grovelling one: 'I would buy thy secret with gold, if it were for sale.'

"The good magistrate: 'It would be to thee of no use. When Kitty cooks her turnips, and Johnny dungs his land, and Harry waters his donkey, I pass on whistling, and think to myself: What is that to thee?'

"The grovelling one: 'Well, and I think the village would go to ruin, if I had not knowledge of every thing.'

Political Horoscope.

"'This poor invalid will soon die,' said Joe. 'Oh, no, replied Harry, 'there is not the slightest danger for his existence:' and he rested his argument on the solidity of the constituent parts of the skeleton."

CHAPTER XI.

*Appeal to the Purer and Nobler Feelings of my Countrymen—
Portrait of Bonaparte.*

THE last of Pestalozzi's political writings which remains to be noticed, viz. his "Appeal to the Purer and Nobler Feelings of my Countrymen," published after the overthrow of the French usurper, when the nations of Europe were looking forward to the restitution of peace and liberty, affords striking evidence of the changes which had been produced in his views during the eventful interval. His attention was no longer directed towards the secondary causes of social corruption; he traced the ruin of nations to the degradation of their character, and this degradation to the neglect of the infant in the cradle. Hence while his countrymen were deliberating on the forms of government which they were to adopt, after the overthrow of the order of things established under the French eagles, he addressed them on the spirit which the nation and its rulers ought to cherish, and which alone could prevent their present deliverance from being a mere transition to another captivity.

"Be not deceived," he says, "oh my country! Thy liberty, thy happiness, will not drop down from the clouds. Nations generally attain no greater prosperity than that which they deserve: nor is this thy sacred hour given thee for the display of perfection. May God grant that thou mayest employ it in preparing for a better state. There are no transitions in nature from the deepest corruption at once to the highest pitch of perfection. All the transitions of nature are gradual: deadly illness is not followed by health, but by convalescence, and a careful attention to the days of convalescence alone can lead again to the full enjoyment of health. My country! the present period is for thee only a time of convalescence, and the blessings

which it may bring thee will entirely depend on thy turning it to account scrupulously and with holy solicitude.

“Friends of humanity! fathers of generations to come! let us not deceive ourselves. The real internal blessings of humanity are not the fruits of the external forms of the civil constitution, but of the morally and spiritually sound condition of the individuals. And therefore, wherever there is a failing of holy solicitude for the individual improvement of our species, there all external advantages of social constitution will be fruitless.

“Be not deceived, oh my country! A charmer is presenting to thy eyes a garden of fruitful trees; thou art amazed; and hungry and languishing thou stretchest out thy hand for one of its fruits, and behold, in an instant, the whole garden disappears from before thy eyes. There is a terrible illusion in constitutional freedom, especially when newly established. Be not deceived, oh my country! Slow is the growth of every good tree, and much time passes away before it is full grown, and yields fruit in abundance. A small seed is deposited in the ground, which soon springs up; but its stem is feeble, and its growth is arrested all the winter, and every winter. It continues for years like the growth of man, and like man it requires care and attention during the whole period of its growth. Wild shoots spring up from its roots, which must be cut off; its tender bark is nibbled by the hungry hare, against which it must be protected by an envelope of straw; its roots are turned up by wild boars, who must be kept away by strong hounds, by fire and sword; its stem is bent by the wind, and must be sustained by props. Even the plough which opens the soil around it, will injure its roots, unless the ploughman guide the blade with an attentive hand. Such is the fostering care required for the growth of a tree which springs up from the seed, or has been transplanted while its stem is yet delicate.

“But if thou mean to be cleverer than the peasant, who gives that care to his tree, or impatient, like an autocrat, who, wishing to surround a newly built palace in great haste with beauty and refreshing shade, digs out grown trees, cuts their roots and their branches, and then plants them; what else canst thou expect but to fare like him, and to see ten of the old trunks die away to one that prolongs a lingering existence.

“Oh my country! old constitutions thus curtailed in root and branches, and transplanted into a new soil, prosper no more than old trees when so treated. Blessed art thou, my country, if thou be able to nurse up new constitutions, from a seed of truth and life, and to bestow upon them that maternal solicitude which they will require. Blessed art thou, if thou canst preserve thyself from being blinded against the most urgent and the most sacred claims of this present period, by a wicked reliance on the efficacy of power, which can never produce the fruits of wisdom and holy solicitude.”

Such is the general tendency of the whole work, which occupies a full octavo volume. To enter into its details

would be foreign to the purpose of the present pages ; and it may, therefore, suffice to subjoin the following extract, which, as concerning the extraordinary individual whom the age raised up for a scourge to itself, has more than local interest :

“ Of all that Bonaparte did, to desecrate the holy power of kings, and to crush the rights of humanity under the footsteps of his assumed majesty, nothing, perhaps, has had so destructive an effect upon the basis of human civilization, by striking at all the most sacred relationships of life, as the sway which his tendency to view mankind only in their collective capacity, induced him to exercise over the property of the church, of schools, and other charitable foundations, as well as of corporations. The divine justice of that higher view, which had from time immemorial connected such property not with the state as a mass, but with individual bodies or members in the state, was trampled upon by the barbarian foot of unhallowed power, with a violence and a cunning unequalled in the history of mankind.

“ It is true, Bonaparte was not the inventor of that political theory, according to which all this property was to become the property of the whole mass. That theory existed before his time ; but there existed likewise a secret consciousness of its injustice, even in the hearts of its advocates, which prevented them, generally speaking, from carrying their project^s openly and fully into effect. Their desires were as lawless as his, but his courage was superior to theirs ; and by the example of his own boldness, he succeeded in extinguishing the last trace of that warning voice in the soul of every man whom he employed as a political tool in the service of his selfish views. The glaring manifestation of the evil, therefore, was no doubt his work, whereas the evil itself had long before taken deep root in most of our governments. Religion, education, and domestic life, which ever were, and ever will be, the only guardians of individual rights against the encroaching influence of the mass, had been shaken in their very foundations by the cold and selfish tendency of our civilization ; and the persons employed by the church and civil bodies in the administration of their various funds, had lost the holy reverence which our forefathers had for the nature of that sort of property, and the scrupulous honesty with which they presided over its use. That which had been committed to the hands of mankind as a sacred deposit, was no longer acknowledged as such by those into whose hands the trust was placed. Church property was, in the hands of many clergymen, and even of clerical bodies, no longer subservient to the holy purposes of Christianity ; charitable foundations were no longer administered for the benefit of the poor ; school funds were no longer made available for what is most essential to the education of youth ; lastly, the corporate property of towns and parishes was no longer applied to the general improvement of

those cities and parishes, and to the promotion of all their individual interests.

"The abuses gradually introduced in the administration of such funds, had transferred the advantages arising out of them from the real proprietors to the trustees, an evil which would naturally lead to the interference of the higher powers. Bonaparte was entirely right in not allowing property which was intended for the service of religion, but had been alienated from that service, to rot within the walls of convents, and to poison the political atmosphere by their corrupt exhalations; he was certainly right in preventing the property of towns and parishes from being spent in civil lists to the privileged families of municipal and parochial power bearers; he was certainly right in not permitting school funds to be applied to the humbug of a narrow and superficial education, directly opposed in its tendency to the claims of true civilization; he was certainly right in objecting to charitable foundations becoming a prey to the rapacity of their administrators, who, regardless of the destitution and starvation of the actually poor and needy, lavished their funds upon the genteel support, as it was called, of the fashions and vanities of families of extraction, ruined by idleness and dissipation; he was certainly right in not acknowledging any longer the correctness of those accounts, as audited by privileged families and their creatures.

"The nature of sovereign power, as the guardian of individual rights, and protector of the weak and suffering, not only gave him a right, but imposed upon him a solemn obligation to interfere decidedly with every such violation of the primitive and most sacred relationships of society, but his right of interference was entirely derived from his position as sovereign, and from the duties which that position involved, and was entirely unconnected with his personal standing. He had no right, therefore, to appropriate the funds, the mal-administration of which he was bound to oppose, to his own personal use or to the purposes of his empire, at the expense of the individual interests that were involved in their right application; he had no right to seize them for covering the wants of the military, finance, and police systems created by him, and satisfying the claims of his avaricious agents. He ought to have exerted his sovereign power, as a power derived from God, for arresting the abuse which those whom the state protects in their possessions, might be tempted to make of their property, to the injury of any of their fellow-citizens or to the prejudice of the public weal.

"But considering Bonaparte's character, his career, and the spirit of the age in which he lived, it must be admitted that it was not easy for him to take so just a view of this matter. A rich man can hardly enter into the kingdom of God, and so likewise a man who, with a character and an energy like Bonaparte's, rose up in the midst of an enervated generation, and who was carried along in his career by all the charms and impulses of universal corruption come to its full maturity, could hardly regard his sovereignty as a sacred office, by which he was bound to exert his power in the

service of views and objects entirely foreign to him; he could hardly be expected to make between church property and other charitable and corporate foundations on one hand, and the public revenue on the other, that distinction which can only arise out of a higher view, generally, of the social relations. The peculiar difficulty of his position is not sufficiently taken into account; and when I see certain people, whose weak powers are perseveringly engaged in hunting up means for the accomplishment of their purposes, so very forcibly struck by the greater wickedness of the energetic chase instituted by the late lion, I am sometimes tempted to whisper to them: 'He that is without sin among you, let him first cast a stone at him.'

"On the other hand it is very true that he seemed not made to realize the ideal of a king in the true, the divine sense of the word; he was not made to form the centre for every thing great, good, and holy, that might be found in the state, and among mankind at large. If he had been, if he had exercised against himself that heroic strength which he exhibited in his struggle against the world, if he had conquered himself for the sake of his brethren, for the sake of suffering humanity, he might have been the deliverer of our deeply degraded age, the fostering angel of Europe, the crown of its sages, the sovereign of its hearts. But he was nothing of all this; he conquered not himself, he would not in any thing become equal to his fellow-men, his brethren. He was the conqueror of the world, but conquered by himself, overpowered by his own weakness, and by a selfishness ill suited to the elevation to which he was raised. The events of his career had at an early period marred in him that germ of pure and holy feelings which is deposited in the bosom of every great man; all that was truly generous in him was destroyed; yet the consciousness of the powers of which his soul was possessed, gave him a feeling of superiority, in which contempt for those who could get no ascendancy over him, was combined with impatience of all control. In the moment of decision he felt that, unable to command himself, he was able to sway the world, and he became an autocrat, and the scourge of the world, destined to rouse mankind from the slumber of weakness and sloth, to show forth the spirit and the character of that war which our carnal nature ever wages against morality and sanctified humanity, and to exhibit all the abomination and all the horrors of that conflict.

"In that war he was successful; had I not faith in God, I should say, he was successful in the work of hell as no mortal and no sinner was before him. I am unable to give a picture of what he made of himself. The word which stands for ever as the landmark between humanity and inhumanity, the watchword of all tyrants hardened in the wicked principle of treating mankind as collective masses, the word which Cain dared to pronounce against God Almighty, 'Am I my brother's keeper?' that word was established by Bonaparte as a maxim of government, with infinitely more energy and success than by any ruler before him, and it lasted long,

very long, before that word of blasphemy caused him to become a fugitive and a vagabond in the earth. His warfare against humankind prospered in the south and in the north, from the Rhine to the Volga. With tiger's strength he vindicated as a right what his predecessors had, as cunning foxes, gained by subterfuge, carefully evading every discussion of their rights.

"His career was great. God who directs the affairs of mankind, made use of him for the purpose of warning this generation, more emphatically than any former generation had been warned, against that stumbling block, which has ever obstructed and ever will obstruct the welfare of society, viz. the preference given to the mass in its collective capacity over the just claims of its individual members.

"In the gigantic aspect of this man, who even in his inhumanity was almost a subject of admiration, we have been made to feel more deeply than ever the world had felt it, the vanity and abomination of the social compact when it has reference to the mass only, and not to the individuals that compose it. In his example we have been made to see more clearly than ever before the world had seen it, how liable man is, in the full collective enjoyment of the carnal mind, to harden himself against the most sacred wants and claims of individual existence; and to consider every suggestion of the lust and wantonness of the corrupt mass, as a sacred right of humanity, as a sacred political right, highly consistent with the laws of human nature.

"It is astonishing to see what support he gained for himself by the exercise of his wicked power. He took it for granted that the world would bow and worship before him; and with the word of blasphemy on his lips he obtained from the much lauded martyr of the claims of the holy see and of the Roman church, to be anointed by him with the holy oil in a Christian temple, as successor to the most Christian kingdom, and the apostolic empire.

"The rapidity with which he enslaved the minds of men, from the lowest rabble, up to the heads of churches and states, and the long continuance of the bondage in which he kept them, is ever to be considered as a masterpiece of human art in the deepest corruption of which man is capable.

"This was not the work of his sword. Before his sword the world fled, but the blood which he shed with it, won him no hearts. No, the blood which he shed, the wastes which he created, the widows and the orphans which he made desolate, won him no hearts. The submission of men's minds to his rule was not the work of his sword, but of his genius, which laid hold of the weakness of the age with irresistible power. He spoke to the honour of the age: 'Contaminate thyself for me, and crown thou for me the beggar and the scoundrel!' And the honour of the age ceased to be honour; it contaminated itself, and crowned for him beggars and scoundrels. He spoke to the courage of the age: 'Be regardless of justice, and bold like

myself in injustice!' And the courage of the age regarded not justice, and was bold in injustice like himself. He spoke to the lust of the age: 'Assist thou me, and for my sake outdo thyself!' And the lust of the age came to his assistance, and surpassed itself in his service. He spoke to the light of the age: 'Vanish thou from the sight of the nations,' and shine only to me, and through me, and for me!' And the light of the age was changed into darkness for the nations, and he alone saw, and no one saw but through him, and for him. He spoke to the faith of the age: 'Be thou unfaithful for my sake!' and the faith of the age became unfaithful for his sake. He spoke to the industry of the age: 'In chains shalt thou work for me!' and the industry of the age worked for him in chains. He spoke to the men of his age: 'If you do this, I will reward you!' and the men of his age and their rulers shrunk from no deed, however abominable, however base, however revolting, for they lusted after his reward. And he said again to the men of his age: 'If you do it not, I will take vengeance upon you.' And the men of his age and their rulers regarded nothing, however holy, regarded not the feelings of their own bosoms, nor the throbbings of their own hearts, for the fear of his vengeance. He was the soul, he was the breath, he was the spirit and the life of every impulse of violence in his day. He was the centre of every lawless feeling, of every unjust deed, from the throne and the session board down to the alehouse. He was the soul of all thinkers, and of all politicians, whose philosophy and whose politics went not beyond the five senses. But he was also a terror and a cause of wailing to all, who with similar desires in their hearts, had not the same marrow in their bones, nor the same blood in their veins; whose senses were not supported by an equal strength of nerve.

"This was his character, this his power, this the secret of his ascendancy, this his prop when he rose to the throne, when he taught mankind a lesson such as the world had not been taught for centuries, in the darkness of an adulterated civilization, on the reference which sovereign power ought to have to the primitive claims of individual existence, on the necessity of a power raised above the corruption of the mass, and the degradation of its tools; on the want of a holy king, whom both his character, and the law of his kingdom would constitute the free father of all his children, and the guardian of the rights of every individual amongst them; on the contrast between a divine and a carnal spirit in power, in subjection, and in freedom.

"It was his will that Europe should erect him a temple, under whose high arches no sunbeam should penetrate; but on whose altar a flame was to burn bright above all flames that ever were kindled by the hand of man, and in the brightness of that flame should be read the words:

"THIS IS THE LIGHT WHICH BONAPARTE GRANTS TO EUROPE."

CHAPTER XII.

Works on Education—Leonard and Gertrude—Evening before a Festival-Day in the House of a pious Mother.

SUCH were Pestalozzi's views and feelings on the political changes which the world underwent in his time. A republican by birth, he held the blessings of freedom in high estimation; but in this, as in all other matters, he was not an admirer of empty words, and accordingly he incurred, on more than one occasion, the displeasure not only of those that hated freedom in itself, but also of those who paid an idolatrous worship to its name. The same reason, however, which caused his writings on those topics to be less appreciated in their time, imparts to them a more permanent interest. We love to see how a man, equally distinguished by his genius and by the earnest solicitude with which he watched over the destinies of mankind, judged of the spirit of his own time: and even those whose interest in Pestalozzi has reference only to his discoveries and labours in the field of education, ought not to remain wholly indifferent to the connexion which he saw between that subject and the organization and development of human society; for it is only by applying universal principles to the peculiar wants of the age in which we live, that we can expect to reap from them practical fruits; such fruits as may yield a remedy, not against the tangible evils, of which the voice of the multitude complains, but rather against the radical disease of which they are symptomatic.

That this was Pestalozzi's great object, those of his works which treat professedly of instruction and education, testify

no less than his political writings; so much so that they can hardly be understood without a knowledge of his views concerning the state of the world generally, and of his country in particular. This is the case especially with Leonard and Gertrude, which as the first-fruit of his genius, and as the result of his first experiment for the improvement of mankind, has an eminent claim to our attention. Amidst all the discouragements of an apparent failure, and the sufferings of pecuniary embarrassments, brought on by his enterprising spirit and too sanguine a reliance on the active philanthropy of his contemporaries, its author deposited in it the images with which his imagination was filled, as if anticipating that the gloom of future struggles would tarnish in his soul the brightness of his first love for mankind. The contrast between the virtues of the cottage and those of the palace on the one hand, and the vices of the lower orders and those of the higher ranks on the other, is exhibited in the successive scenes of a dramatic novel; and among the improvements discussed and practically adopted, in the progress of the story, education forms a prominent part. The costume, especially that of the villagers, is Swiss, although, for the sake of personifying the "good magistrate," the scene is laid in a district supposed to be under feudal dominion.

"In the village of Bonnal there lived a Bricklayer, whose name was Leonard, that of his wife Gertrude. He had seven children and good employment. But, unfortunately, he allowed himself frequently to be enticed to the public-house. . . . Gertrude was the best woman in the whole village; but she and her blooming children, were in danger of sinking into the deepest misery and destitution because of Leonard's liking to the glass."

Gertrude endeavours by her exertions to arrest the growing ruin of the family, but sometimes she is overpowered by the prospect of despair before her eyes. Such a moment of anxiety, and of loud crying to God, is the Wednesday evening before Easter; and Leonard, on his return home at a late hour, finds his family in a situation, which might well arouse the slumbering voice of conscience in the heart of a father. His repentance is sincere, but his hope feeble, for he is deep in debt with the publican Hummel, who is

at the same time bailiff, and whose mercy can only be prolonged by continued visits to his tap-room. The apprehensions of a guilty conscience deter him from following the advice of his wife, by throwing himself into the arms of Arnheim, the lord of the manor; he knows that evidence against his character might easily be obtained, and is afraid of the vengeance of the avaricious bailiff. In this difficulty Gertrude resolves to go herself to the manor-house at Arnburg, where she is encouraged, by a kind reception, to represent the distress of her family, and to pray that her husband might be assisted in extricating himself from the snares of Hummel. The result is, that at a public meeting of the villagers in the churchyard, Arnheim engages Leonard for the building of a new church, then in prospect, and shortly after gives Hummel the choice between losing his office and giving up his public-house. The gradual development of these events in the interval between Holy Thursday and Easter Monday, affords the author an opportunity of giving a variety of interesting scenes, in which the character of the different parties is finely illustrated. Some of them, in the style of Dutch paintings, present a faithful picture of the base cunning and gross selfishness by which, under the influence of vice and dissipation, the lower orders are degraded; while others in higher taste exhibit the sublime spectacle of piety in its most glorious aspect, when separated from all that the world values and admires. Of this latter kind is the following:

 EVENING BEFORE A FESTIVAL-DAY IN THE HOUSE
 OF A PIOUS MOTHER.

“Gertrude was yet alone with her children. The events of the week, and the thoughts of the festival Easter-morning filled her heart. In thoughtful silence she prepared the supper, took from the closet the Sunday clothes for her husband, herself, and her children, and laid them all ready for to-morrow, that no earthly care should distract her mind on the holy day. And when she had completed it all, she assembled her children round the table to pray with them.

"It was her custom on Saturdays, to remind the children, in the hour of evening prayer, of their faults, and of such occurrences as were calculated peculiarly to interest and to edify them.

"And this day especially she remembered the loving-kindness of God towards her during the past week, and she wished, as far as possible, to impress deeply and indelibly upon the minds of her children the marks which she had received of the goodness and mercy of God.

"The children sat round her in silence, with their little hands folded for prayer, and the mother said to them :

" 'Children, I have to tell you of good things. Our dear father has had this week very excellent work given him, by which he will earn much more than he could do before; and we may hope, my children, to eat our bread in future with less care and sorrow.

" 'Give thanks, therefore, unto God, our loving Father in Heaven, for his goodness towards us, and remember often the old times, when I was obliged to portion out to you every mouthful of bread with care and anxiety. Oh! it grieved my heart many a time that I could not give you sufficient, but our kind Heavenly Father knew that he would help us, and that it was better for you, my dears, to be accustomed to poverty and patience, and to learn to conquer your own desires, than to live in plenty. For man, when he has whatever he likes, is liable to grow thoughtless, and to forget God, and not to do what is best and most beneficial for himself. Oh! remember, as long as you live, my children, our days of poverty, and the distress and the sorrows which we have endured; and, if we be better off henceforth, my children, be mindful of those who are suffering in want, even as you have been suffering. Never forget what it is to be visited by want and hunger, that you may always be merciful towards the poor; and that you may be willing, if you have a morsel to spare, to give it to those that have not. Yes, you are willing; are you not my children?'

" 'O yes, dear mother!' replied the children, 'surely we will do it.'

" *Mother.*—'Well then, Niclas, whom dost thou know that suffers most from hunger?'

" *Niclas.*—'Mother! 'tis Rudeli. Thou wast yesterday with his father. He is almost starving; he eats grass off the ground.'

" *Mother.*—'Shouldst thou like to give him thy supper now and then?'

" *Niclas.*—'O yes, mother! may I to-morrow?'

" *Mother.*—'Yes thou mayest.'

" *Niclas.*—'That's very nice.'

" *Mother.*—'And thou Betty! to whom wouldst thou give thy supper now and then?'

" *Betty.*—'I can't think just now, to whom I should like to give it.'

" *Mother.*—'Canst thou not think of a child, then, that must go without food sometimes?'

"*Betty*.—'O yes, I can mother!'

"*Mother*.—'Why then canst thou not tell to whom thou wouldst give? Thou art always so scrupulous, *Betty*.'

"*Betty*.—'Well, mother, I know now.'

"*Mother*.—'To whom?'

"*Betty*.—'To Marx's Beteli. I saw her to-day digging out rotten potatoes from the bailiff's dunghill.'

"*Niclas*.—'O yes, mother! and I saw her too: and I looked in all my pockets for bread, but I had not a mouthful left: if I had but kept it a quarter of an hour longer!'

"The mother then asked, in the same way, the other children likewise; and they were all delighted at the idea of giving their suppers to poor children to-morrow.

"The mother let them enjoy their delight for a while, and then she said to them: 'That's enough, my children; now think what beautiful presents his lordship has made you.'

"'Oh yes, the new glittering pennies, wilt thou show them to us, mother?' said the children.

"'Yes, after prayers,' said the mother.

"And the children exulted with joy.

"'You are too noisy, my children,' said the mother. 'If something good comes to you, always think on God, who gives us all things. If you do that, children, you will not be wild and boisterous in your joy. I like to be cheerful with you, my dears! but when people are loud and violent in their joy or their sorrow, evenness of temper and peace of heart are lost: and a man who has not a still, quiet, and glad heart, cannot be happy. Therefore we ought always to have the fear of God before our eyes. Your morning and evening prayers are on purpose that you should not forget this: for people that thank God and pray to him, are neither immoderate in their joys nor comfortless in their sorrows. And therefore, my children, we should try, especially in the hour of prayer, to be still and quiet. You see, children, if you thank your father for anything, you do not shout and make a noise; you fall round his neck silently or with a few words, and when it goes near to your hearts, the tears come into your eyes. So it is with God, my dear children. If you are very much rejoiced at the good he does you, and if you have it in your heart to thank him, I am sure you will not make many words or much noise, but the tears will come in your eyes when you think how kind your Heavenly Father is. That is the good of praying, you see; one's heart should always remain thankful towards God and man; and if you pray aright, you will do aright likewise, and you will be in favour with God and man all your lives.'

"*Niclas*.—'We shall be in favour with the good lord at Arnburg too, if we do right; didst not thou say so yesterday, mother?'

"*Mother*.—'Yes, children, he is a very good and pious man. May God reward him for all that he has done for us! I hope he will be pleased with thee, Niclas, by and by!'

"*Niclas*.—'I'll do all he would wish me to do; I will do anything for him, just as for thee, and for our father, because he is so very good.'

"*Mother*.—'That's right Niclas. Always think so, and thou mayst be sure he will like thee.'

"*Niclas*.—'O how I should like to talk to him, some day!'

"*Mother*.—'Well, what wouldst thou say to him?'

"*Niclas*.—'I would thank him for that fine new penny.'

"*Anne*.—'Shouldst thou be bold enough to thank him?'

"*Niclas*.—'Why not?'

"*Anne*.—'I should not, I am sure.'

"*Betty*.—'No, nor I either.'

"*Mother*.—'Why should not you, my children?'

"*Betty*.—'Oh, I should be laughing!'

"*Mother*.—'What, laughing! O fie! Betty; to say beforehand that thou wouldst be silly. If thou hadst not a great many foolish things in thy brains, thou couldst never think or talk thus.'

"*Anne*.—'I should not laugh, but I should be afraid.'

"*Mother*.—'He would take thee by the hand, Anne, and would smile upon thee, as thy father does, when he is very well pleased. Then thou wouldst not be afraid, I suppose?'

"*Anne*.—'Oh no, not if he did that.'

"*Jonas*.—'No, no more should I.'

"*Mother*.—'Well, but my dears, how is it, about your goodness, this week?'

"The children look at one another, and say nothing.

"*Mother*.—'Anne, hast thou been a good girl this week?'

"*Anne*.—'No! mother! thou knowest about my little brother.'

"*Mother*.—'O yes, Anne, the poor child might have been very much injured; poor babes, that have been left in that way, have sometimes died. Besides, only think, if thou wast shut up by thyself in a room, and left to cry, and to suffer thirst and hunger. Poor little children get angry when they see that nobody cares for them, and cry so dreadfully that they may hurt themselves for their whole lives. Really, Anne, I should not be able to leave the house for one moment with comfort, if I was not sure that thou wouldst take good care of the baby.'

"*Anne*.—'Trust me, dear mother! I will not leave him again for a single moment.'

"*Mother*.—'Well I hope thou wilt not give me such another fright: and now, Niclas, how has it been with thee this week?'

"*Niclas*.—'I know of nothing wrong.'

"*Mother.*—'Hast thou forgotten that thou didst throw down Kitty, on Monday last?'

"*Niclas.*—'I did not mean to do it, mother.'

"*Mother.*—'To be sure thou didst not mean it. To do such a thing on purpose, would be fine, indeed. Art thou not ashamed to make such a speech?'

"*Niclas.*—'I am sorry for it, dear mother. I'll not do it again.'

"*Mother.*—'If thou shouldst be so careless when thou growest bigger, thou wilt have to learn better at thy own expense. Even, among boys the thoughtless and careless ones get into a great many scrapes and quarrels; and, I am afraid, thou wilt bring great misfortune and sorrow upon me, some day, by thy careless ways.'

"*Niclas.*—'I am sure, mother, I'll be more careful.'

"*Mother.*—'Be sure not to forget it, my dear: believe me, that thy carelessness would certainly make thee unhappy.'

"*Niclas.*—'I know it and believe it, my dear, dear mother; and I promise thee, I shall be careful in future.'

"*Mother.*—'Well, and thou Betty, how hast thou behaved this week?'

"*Betty.*—'I am sure I can't think of any thing out of the way this week, mother.'

"*Mother.*—'Art thou quite sure?'

"*Betty.*—'I am, indeed, mother; as much as I can recollect. I should not mind telling of it, if I knew.'

"*Mother.*—'It's very odd, that even when thou hast nothing to tell, thou answerest always with as many words as another who has got a great deal to say.'

"*Betty.*—'Well, what have I said then, mother?'

"*Mother.*—'Thou hast said nothing, I know; but thou hast given me a long answer. 'Tis what we have told thee a thousand times, that thou art too forward: thou never thinkest what thou shouldst say, and yet thou wilt always be talking. For instance, what business hadst thou the day before yesterday to tell the bailiff, thou knewest that *Amer* was coming shortly?'

"*Betty.*—'I am sorry for it, mother.'

"*Mother.*—'We have often told thee not to talk about things which don't belong to thee, particularly before strange folks, and yet thou must always do it. Now suppose it had been wrong for thy father to let it be known that he knew of it, and suppose thy gossip had brought him into trouble?'

"*Betty.*—'I should be sorry for it, but neither thou, nor he have said a word of its being a thing not to be known.'

"*Mother.*—'Very well, I'll tell thy father, when he comes home, that whatever we say in this room, we must always add: Now this is a thing which Betty may gossip about at the neighbours' doors, and at the fountain,

but not this, and this; but of this again she may prate, and then thou shalt always know what thou mayest chatter about.'

"*Betty.*—'I do beg thy pardon, mother; I did not mean it so.'

"*Mother.*—'Thou hast been told, once for all, that thou art not to talk of any thing that is no business of thine; but it is all in vain: there is no getting thee out of that habit, except by severe means; and the very first time that I overtake thee again in any such idle gossip, I shall take to the rod.'

"The tears burst from poor Betty's eyes when her mother mentioned the rod. The mother saw it, and said to her: 'The greatest mischief, Betty, often arises out of idle gossip, and thou must be cured of that fault.'

"Thus discoursed the mother with them all; even to little Kitty she said: 'Thou must not be so impatient again in asking for thy soup, or I shall make thee to wait still longer; and, after all, give it to some one else.'

"All this being over, the children said their usual evening prayers, and after them the Saturday-night's prayer which Gertrude had taught them, and which was as follows:

"'Dear Father in Heaven! Thou art always kind to men on the earth, and to us also Thou art always kind, and givest us all that we want. Yes, Thou givest us good things in abundance. From Thee all things come, bread, and all that our dear father and mother give us; Thou givest it to them, and they give it to us gladly. They rejoice in all things that they can give us and do for us, and they tell us to thank Thee for all the good which we receive from them. They tell us, if they knew not Thee, and loved not Thee, neither could they love us; nor could they do us much good, unless they knew Thee and loved Thee. They tell us also, to thank the Saviour of the world, that they know and love Thee, oh Heavenly Father! and that all men who do not know nor love that dear Saviour, and who follow not all the good commandments which He gave unto men on the earth, cannot love Thee, oh Heavenly Father! nor educate their children carefully and piously, as those do that believe in the Saviour of the world. Our dear father and our dear mother are telling us ever much of this dear Jesus; how much He loved all men on the earth, and how, to make them happy in this life and in the life to come, He lived in sorrow and affliction, and at last died on the cross; how Thou hast raised Him up from the dead, and how He, being Thy son, now sits with Thee in the glory of heaven on Thy throne, at the right hand of Thy majesty; how he still loveth all men on the earth, and seeketh to make them good and happy. Oh, it always goes to our hearts, when we hear of that dear Jesus! Grant that we may learn to live so that we may please Him, and that we may one day be with Him in heaven!

"'Dear Father in Heaven! We that are sitting here, and praying together, are brothers and sisters; therefore we will be kind to one another, and do

each other no harm, but on the contrary, all the good we are able to do. We elder ones will take care of the younger ones with all care and diligence, that our dear father and mother may comfortably go about their work for their bread; alas, this is all that we can do for them, for all the trouble and expense they have for our sakes! Reward Thou them, O Father in heaven! for all they do to us, and make us obedient unto them in all that they command us to do, that we may remain dear to them to the end of their lives, when Thou shalt take them from us, and reward them for all the faithfulness which they have shown towards us.

“‘Dear Heavenly Father! let us remember, that we may keep holy the day of to-morrow, that we may be mindful of Thy goodness, and of the love of Jesus Christ, and that we may not forget any of the good which we receive from our father and mother, and from all men; that we may be grateful and obedient to God and man, and walk in love before Thee all our lives.’

“Here Niclas was to stop. And Gertrude taught them, according to what had happened in the week, to pray further as follows:

“‘We thank Thee, O Heavenly Father, that Thou hast eased, this week, the heavy burdens of our dear parents, and their cares for their bread and the bread of their children, and hast blessed our dear father with a good and profitable employment. We thank Thee, that our Lord with paternal affection protects, and comforts, and assists us in all our misery and distress. We thank Thee for all the blessings which Thou hast bestowed upon us through him. Grant, we beseech Thee, that we may serve him acceptably before Thee all our days, for he is unto us as a faithful father.’

“Then the mother taught Betty to pray in this manner: ‘Forgive me, O my God, my besetting sin, and teach me to bridle my tongue, to be silent when I am not to speak, and to answer considerately and discreetly whenever I am asked.’

“And Niclas: ‘Preserve me, O Heavenly Father, from all hastiness, and teach me to be on my guard, and to see what I do, and who is about me.’

“And Anne: ‘I am sorry, good God, for leaving my dear little brother so thoughtlessly, and frightening my dear mother. I will not do it again all my life; forgive me, I pray Thee, good God.’

“And after the mother had thus taught all the children, she continued:

“‘Hear us, O Lord!
 Father, forgive us!
 Jesus, have mercy upon us!’

“Then Niclas said the Lord’s prayer.

“And Anne: ‘Have mercy, O Lord, upon my dear father, and my dear

mother, and my dear brothers and sisters, and our dear lord Arnheim, and all the dear good people on the earth.'

"And Betty: 'Grant us our prayers, we beseech Thee, O Father! O Son! O Holy Ghost!'

"And the mother again: 'The Lord be with you, the Lord bless you, the Lord let the light of his countenance shine upon you, and be merciful unto you!'

"And after this, mother and children sat yet a little while in that solemn silence which a true prayer always imposes.

"Betty interrupted this silence: 'Thou wilt now show us our new pennies,' said she to her mother.

"'I will,' replied the mother, 'but thou art always the first to speak, Betty.'

"Niclas now jumped up from his seat, and pushed forward, that he might be nearer the candle and see the new pennies better; and, in doing so, he hurt the little baby, so that it began to cry aloud.

"Then said the mother: 'Niclas, this is very bad. Thou didst promise, not more than a quarter of an hour ago, that thou wouldst be more careful, and now thou seest what thou hast done again.'

"*Niclas.*—'O, mother, I am very sorry for it, it shall not happen any more.'

"*Mother.*—'That is what thou didst just now promise to God Almighty, and yet thou hast done it again. Thou art not in earnest.'

"*Mother.*—'O yes, my dear mother! I am quite in earnest. Forgive me; I am so very, very sorry.'

"*Mother.*—'So am I, my dear! but thou wilt not remember it, unless thou be punished. Thou shalt go to bed now without thy supper.'

"And saying so, she led him away from the others into his chamber. His brothers and sisters were all standing about grieved, for they were sorry that poor Niclas should go without his supper.'

"'What a pity it is that you will not be governed by kindness!' said the mother, when she came back.

"'Let him come out again this once;' said the children.

"'No, my dears, he must be got out of his thoughtless habits,' was the mother's reply.

"'Well, then, we will not see the pennies till to-morrow, that he may see them with us,' said Anne.

"'Well spoken, Anne!' answered the mother; 'he shall see them with you.'

"After this she gave the children their suppers, and then she led them to the chamber where Niclas was still crying.

"'Be very careful, pray, another time, my dear Niclas,' said the mother to him.

"And Niclas: 'Do pray forgive me, dear mother: do forgive me, and kiss me. I do not want any supper.'

"And Gertrude kissed her Niclas, and a burning tear flowed down her cheek upon her face, when she said to him: 'O Niclas, Niclas, do try to become more careful.' And Niclas threw both his arms round her neck, and said: 'O mother, mother, forgive me!'

"And Gertrude once more blessed her children, and then she returned to her room.

"She was now quite alone. A small lamp shed its feeble rays through the apartment, and her heart was still in silent prayer, which, without words, inexpressibly moved her soul. The feeling of God and of his goodness, the hope of life everlasting, the sense of that internal joy and peace which dwells in those who trust in their Heavenly Father; all this stirred her soul, and she sunk down on her knees, and a stream of tears flowed down over her cheeks."

CHAPTER XIII.

Leonard and Gertrude continued—Village Reform—The New System—Trials and Successes of a Country Schoolmaster.

AFTER the introductory scenes, which are admirably calculated to give the reader a distinct impression of the leading characters, the plot of the story opens with the determination on the part of Hummel, to be revenged for Arnheim's infringement of the long-enjoyed privilege of iniquitous rule over the village. He attempts the removal of a boundary stone on one of Arnheim's estates, by which, though he cannot be benefited himself, yet he hopes, from the peculiar position of that stone, considerably to curtail the property of his master. A concatenation of unfortunate circumstances, however, aided by his own superstitious fears, leads to his detection; and while he is under the arm of justice, awaiting the sentence of the law, he, as well as several of his accomplices in former iniquities, make spontaneous confessions, some from fear, others from remorse. The discoveries successively made in the course of the inquiry, bring the mal-administration of the village, which had taken deep root during the times of his predecessor, under the notice of the young lord, who, more anxious to repair evil than to avenge it, proceeds with the utmost lenity against the offending parties; and, assisted by Ernst, the minister of the parish, undertakes a fundamental reform of the whole community, which he is the better able to carry into effect with energy, as the most influential men in the village, and those most inclined to oppose him, have by the recent revelations become liable to the most severe visitations

of the law. Many are the intrigues set on foot with a view to defeat his object, both in the village itself, and at court, where a corrupt minister, dreading the contagion of improvement, encourages the machinations of some invidious relations of Arnheim. But all the refinement of low cunning and high-born duplicity, cannot obstruct the progress of a man, who, conscious of the goodness of his intentions, and full of zeal for the welfare of the people intrusted to his government, goes forward with a bold and decided step; and we find at the end of the work his projected reform, though not completed, yet in so prosperous a condition as to place its ultimate success beyond all doubt.

This is the short and simple outline of a story, which is kept up with the utmost interest through four octavo volumes. Its incidents are commonplace occurrences, such as the history of every village would furnish, but its characters are drawn in such perfection, that no artificial excitement of attention is needed; and the striking portraiture of national character, with which the idiomatic style finely corresponds, while it renders some parts, perhaps, less intelligible to the many, contributes greatly to heighten the interest of the narrative for those who are acquainted with the originals themselves. The attractions are not to be found in the plot, but in its details; it is not the composition in itself, so much as the high finish given to the different groups, and the fine contrasts between them, that constitute its beauty. Of a work of this description, it is impossible to give any other than either a very brief, or else a very lengthened account; and the interest of the readers of the present volume will, therefore, be best consulted by the addition of a few extracts relative to the re-organization of the school in Bonnall, for which Gluelphi, a reduced officer, and friend of Lord Arnheim's, volunteers his services. Having endeavoured to prepare himself for his task by frequent conversations with the enlightened Gertrude, whose family-circle he proposed to himself as the pattern of his future school, and having been introduced to the villagers as

their new schoolmaster one Sunday after the sermon, by Arnheim and the pastor, he enters his school-room on the following morning with an agitated and apprehensive mind, in consequence of various gossips which have reached his ear on the day preceding, and which evinced no kindly disposition towards him on the part of many of the parishoners, as well as of their children.

“When he came into the room he found about a dozen of the brawlers, the most insolent that were in the village, both men and women; they saluted him much as a master does his journeyman when he comes to him into his workshop. They lost no time in telling him, in a tone which implied not the slightest doubt of their right to be there, that they were come to be present at his instruction, and to see upon what system he was going to teach. He replied, that he begged their pardon, but that he intended to have the children to himself to-day. At this the gents and their wives stared very much, for they could not at all understand, how a school-master dared in their own school-room to tell them that he would not have them in it. At first they affected not to have understood him, and putting their heads together, remained in the room. But Gluelphi gave them another hint, that he intended to have the room cleared, and that he should not begin school until they were gone out. At last, when they saw that they could not enforce their presence, they went away.

“The minister had sent, on Sunday evening, to all the houses, to say that all the children were to be at the school-room precisely at eight o'clock; yet at half-past nine there were still a great many wanting, from the disorderly families, and from the houses of some of the magistrates. With the exception of those whom their parents accompanied from curiosity, the children of Gertrude, and those of another orderly family who came with her, were the only ones that arrived quite in time. Meanwhile the whole village was in the greatest suspense, till they should know what new fashions Gluelphi was going to introduce in the school, and for several days past this had been the great topic of their discussions. This was the reason too why the brawlers were so unwilling to leave the school-room. There was nothing extraordinary, however, in this general excitement, considering that a lathe, a carpenter's bench, a small forge with an anvil, a great number of work-boxes, spinning-wheels, and a variety of other articles of the same kind, intended for the school, had been sent from the castle to the parsonage-house. Indeed it had been Gluelphi's plan, from the first moment when he resolved to undertake the office of schoolmaster at Bonnal, to connect at the very onset all his instruction with different sorts of manual employment; but Gertrude soon convinced him, that it was impossible, at first, to take any thing in hand except what the children had been accustomed to, how-

ever little it might be, and however badly learned. The lathe, bench, work-boxes, spinning-wheels, &c. had accordingly been left, for the present, in the parsonage house, and Gluelphi began his operations by examining the children in what they knew already. In the first instance he made them recite their prayers, texts, &c. which they had learned by heart.

"In giving him this advice, Gertrude added, that such a proceeding would afford him, at the same time, the best opportunity of finding out what they knew, and how they knew it, and thereby of forming an estimate of their capacities, their acquirements, and their dispositions.

"This he found actually to be the case. At the first attempt of making them recite their former lessons, the miserable emptiness of their minds, and their utter ignorance of what they thought they knew, because they were able to recite it, became so evident, that before an hour had elapsed, the poor Lieutenant's patience was almost exhausted. The very contrast between their looks and the words which they pronounced, and which were obviously on their lips quite unmeaning, put him out of countenance. The child of Hallori, whose eye was full of envy and malice, stared him in the face with the greatest insolence and scorn, while reciting the words: 'Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy strength, and with all thy mind, and thy neighbour as thyself.' But she knew neither what was meant by thyself, nor that she had a heart or a soul, nor who her "neighbour" was, except it were the "people next door."

"The child of Scraper, a great miser, repeated the text, 'Sell all thou hast, and give it to the poor,' and the other, 'Lay not up for yourselves treasures upon earth, where moth and rust doth corrupt, and where thieves break through and steal.' But when the schoolmaster asked, whether he had ever given any thing to a poor child, he answered directly in the negative; and upon the next child whispering to him that he ought to have answered differently, he replied: 'Don't you know, 'tis what one eats one's-self that does one good.' This boy seriously did not think himself bound to give any part of what was his to any one else, and when, after school, some children told him that his answer would gain him no great favour from the schoolmaster, he said, 'his father and mother must well know what was right, and they had often told him, that he must keep to himself whatever they gave him, and that, if he carried any of it out, and gave it to others, it would be as bad as stealing.' When asked what 'treasures' meant, he knew nothing at all, except that he had heard of conjurers, who could force the devil to give up treasures which he had hid under ground. Gluelphi, who was anxious to know more about the children, listened to these and many other things of the same kind very patiently, and made scarcely any remark.

"The insolence of one boy, the son of one Hardpunch, however, threw him off his guard. He wanted not only to repeat his texts, but also to explain them; and in reciting the Ten Commandments, he added to each of

them a comment, to show what was God's real meaning in giving such a command. Nevertheless he was careful to say nothing directly profane, however expressive his posture and countenance might be. Nor did the lieutenant reprove him, otherwise than by a look of dissatisfaction. But when he saw afterwards, while other children were reciting, that the boy kept on for more than a quarter of an hour talking to his neighbour, and laughing at the remarks he whispered in his ear, Gluelphi suddenly turned round and asked, not Hardpunch, but the other boy, what was the matter? The boy answered that Hardpunch had explained to him the real meaning of the seventh and eighth Commandments. 'Well, and how did he explain them?' Hardpunch now began to push the other boy, and beckon to him not to tell. But he was an openhearted fellow, and said, without paying any attention to the nods of Hardpunch, that he had told him, there was a great difference between one sort of stealing and another; to rob a rich man was a very different thing from robbing a poor man; another question was, whether the man that was robbed was a good man or a wicked man, nay, perhaps, himself a rogue and a thief; 'in general,' he said, 'not all that was called stealing was really stealing. There was a great difference likewise, between a trespass and a theft. To take away wood in the forest was only a trespass; and the disciples, when they plucked ears on the sabbath-day, had certainly not taken them from their own fields, but from those of other people.' And in the same manner he explained 'that the seventh Commandment had various modifications, and there was no occasion for attending to every ignorant precept or injunction.'

"Hardpunch now began to disclaim these explanations, saying, the other had wrested his words. But he was so confused, that Gluelphi saw clearly he was speaking untruth; and though he only bad him be silent, yet he was very much vexed with the insolence, and hardheartedness, which the boy had evinced in this distortion of scriptural truths, the words of which flowed so readily from his lips.

"Another boy, a relation of Hardpunch, and a great blockhead, had got whole chapters of the Bible by heart, and repeated as a specimen the ninety-ninth Psalm; but he pronounced hardly one word of it correctly, and in the manner he said it, there was not one verse of it that made sense; yet so proud was he of his feat of saying a whole Psalm, that it was difficult to say, whether impertinence or stupidity was the predominant expression of his face. Gluelphi could stand it no longer. He told him to stop, and said: 'What you repeat here is not the ninety-ninth Psalm; it is stupid stuff, which no rational creature will ever recognise for the ninety-ninth Psalm.'

"'To be sure it is the ninety-ninth Psalm, master,' replied the boy.

"'Yes,' resumed Gluelphi, 'as it is in the book, but not as you now say it. As you say it, it is rank nonsense, and you had done better to learn "the Merry Jester" by heart, in this way, than a Psalm.'

“ ‘I know that too, master,’ said the boy in an indifferent tone; ‘and, if you like, I’ll repeat some of it.’

“Such absence of all feeling among the children was more than Gluelphi could endure; particularly as he saw, that some of them were instigated to behave with insolence. But even from those who were not, it was impossible to elicit one idea or feeling on the subjects contained in their books. There was not even the slightest glimmer of a wish to understand what they repeated, and the greater and more sacred the import of what ran from their lips, the more unfeeling and stupid were their looks. It was in Gertrude’s children only that he discovered a corresponding impression of the mind in the recital of their prayers and texts. The children of some of the followers of the late pastor, Vervysaint, showed some sort of disposition to attach a meaning and a feeling to what they had learned by heart, but they were utterly unable to give a distinct account of their own ideas. The children of Gertrude were the only ones in the whole school that possessed the power of expressing their thoughts. All these observations together began to ruffle his temper, in spite of all the resolutions he had formed. After the first half-hour of the examination, he stood before the children with a wry face and a cross look, and he began himself to have ill bodings of his success. To say one word in that spirit of maternal solicitude and kindness, by which Gertrude encouraged her children, seemed with such a mass almost impossible, and yet he knew that without this he could never produce any effect. He felt not at all at home in his school-room, and began to be fidgety and uneasy; and the more he saw that the children had been set against him, the more did his unpleasant feelings increase. Gertrude too felt more uncomfortable that morning than she had ever felt in her own room. She was pained to see Gluelphi so bewildered, but she was herself at a loss what to do; and when the clock struck twelve, they both left the school, evidently vexed at the ill success of their first morning. . . .”

The afternoon was less trying, for Gluelphi had collected himself in the interval, and finding that, by giving way to the impressions which he received, he had incapacitated himself for the right performance of his duty in the morning, he made a serious effort to arm himself better against any unpleasant occurrences that might await him. He had some conversation, too, with Gertrude, the result of which was, that she proposed the introduction of another volunteer-assistant, whose presence even for a few days, she thought, would be of great service. The greatest difficulty seemed to be, that Gertrude was a stranger to most, and Gluelphi to all of these children, so that the better ones were restrained

by timidity, while the unruly ones availed themselves of this opportunity of carrying on their sport with the greater boldness. The person whom Gertrude had in view was the daughter of a master spinner in Bonnal, who, in distributing the work which her father gave out to the villagers, and receiving the yarn back, had become well acquainted with most of the families, and was personally well known to all the children. There was another reason why the interference of "Cotton Mary" was highly desirable. It was currently reported from house to house, that the new school-master had declared, on the first morning, there was more use in learning "the Merry Jester," than in learning the Bible, and the "pious" folks "left each other to judge" what education their children could receive from such a "blasphemer." This rumour was taken up by Cotton Mary, on her first entrance into the school-room, and by talking familiarly with the children, she impressed upon their minds the contrast between what Gluelphi had actually said, and what he was reported to have said, so forcibly, that, except with a very few who were determined he should be a blasphemer, the effect of his unguarded speech soon subsided.

"This point being settled, she seated herself behind a desk, and said : 'What should you say, children, if I were to stop a few days, and help the lieutenant to keep school?'"

"All the children, knowing her, exclaimed : 'Oh, that would be very nice indeed !'"

"*Mary.*—'But how is it? will you promise to be obedient?'"

"'O yes, O yes!' exclaimed the children, and some added : 'O, we know you, and you need only make us a sign, we shall understand at once what you mean.'"

"*Mary.*—'But don't you understand the master as well, if he makes you a sign.'"

"The children were silent, but one answered : 'We dare not speak as freely with him as with you.'"

"*Mary.*—'But with Gertrude you may, mayn't you?'"

"*Children.*—'Not quite.'"

"*Mary.*—'Well, I'll teach you, before the day is over, to understand them, and to talk with them as freely as you do with me.'"

"And, saying so, she turned towards the lieutenant, and said : 'Now, sir,

if you please, you may ask them, one after the other, whatever you like. I shall see whether they cannot answer you as freely and cheerfully as if I were asking them.

"The lieutenant took the hint, and began to ask, now one child, and then another, all manner of questions, just as they happened to come into his mind, and if any child was backward in answering, Mary went and took him laughing by the hand, or by the hair, or by the ears, and said: 'Come, come, be quick, say what you think about it, never mind! only be free and cheerful!' It lasted not a quarter of an hour, before several of the children felt quite easy, and began to give lively answers; and they thought it very funny, that Mary should thus take them by their ears, or by their hair, and oblige them to look up, and to speak out. Some of them soon became merry, their answers grew shrewd and witty, to the great delight of Mary, and of the lieutenant, who made them repeat some of the quaintest answers aloud, so that all should hear them. This set the whole school laughing; all reluctance soon disappeared, and those who had been most timid were now most ready to answer. Gluelphi was very much struck to see that those, who from insolence had been most forward to speak, became more considerate and retired, in proportion as the better children became more free and easy."

Gluelphi was discerning enough to see, how much of her influence over the children Mary owed to the homeliness of her manner and address; and he endeavoured to profit by the example, by adopting as much as possible a turn of action and expression which was more familiar to them. He succeeded beyond his expectation; and having once established a fellow-feeling between himself and his pupils, he found it much easier to preserve that evenness of temper, which he felt to be so essential in his position.

"How much better did his second afternoon succeed than his first! What would have roused his indignation a few hours before, now excited his pity, and compassion took the place of anger. A boy who had mocked him yesterday, and who still looked at him with an evil eye, he would now take kindly by the hand, and say to him: 'It is a pity you should behave yourself in this way, my boy, it is to your own hurt.' He now began to see the children more and more individually. The impression of a corrupt mass, which had so bewildered him at first, seemed to have quite vanished. He looked upon each child separately, and then felt each of them nearer to his heart: nay, he observed something good or lovely even in those whom he had considered, the day before, as thoroughly perverse. . . .

"His compassion and his love brought the eminent qualities which he possessed for the office of a schoolmaster into full play, and made him a very

different man from what he had been at first. He now saw, that it was on these tender feelings that all the influence of Gertrude in her domestic circle rested, and when he represented to his mind the image of maternal kindness and faithfulness which he had from the beginning chosen for his model, he remembered at once the beautiful words of the Psalmist: 'Like as a father pitieth his children, so the Lord pitieth them that fear him.' And he said to himself, 'as the Lord pitieth them that fear him, so ought I to pity the children of this village, if I truly love them, and mean to be their schoolmaster.'

"Gertrude and Gluelphi did, from morning to night, all in their power to preserve the confidence and affection of the children. They were constantly assisting them with kindness and forbearance. They knew, that confidence can only be obtained by an union of power and love, and by deeds which claim gratitude in every human bosom; and, accordingly, they endeavoured daily more to attach the hearts of the children by conferring upon them numberless obligations, in a spirit of active charity. They knew, likewise, that confidence and affection for his human benefactors is the steppingstone for the child to those more elevated feelings of faith and love, with which he ought to embrace the Supreme Being, and they made it a leading object of their solicitude to guide the children's minds to perceive the manifold evidences of divine goodness and mercy towards them, exhibited in the occurrences of daily life, and in the experience of their own hearts. Gluelphi was deeply impressed with the truth, that education is not imparted by words, but by facts. For kindling the flame of love and devotion in their souls, he trusted not to the hearing and learning by heart of passages setting forth the beauties of love and its blessings; but he endeavoured to manifest to them a spirit of genuine charity, and to encourage them to the practice of it both by example and precept. He led them to live in love. He presented to their minds the distresses and sufferings of others, not of men who had lived thousands of years before them, and at thousands of miles distance, but of those who were near them, whose tears they saw flowing, in whose emaciated countenances they could themselves read the inscription of hunger, whose nakedness and helplessness made an immediate appeal to their senses. By the sight of misery he endeavoured to excite commiseration in the hearts of the children, and to lead them to reflect on the causes of distress and suffering, and on the means of alleviating them. He rendered them attentive to the afflictions of their fellow-creatures, and especially of those who were connected with them by any nearer ties, for he knew that the sympathies of life are most acutely felt within the circle of the family. If there was any one ill in the house of any of the children, were it father or mother, or brother or sister, or even the meanest servant, he never failed to ask the child, the moment he entered the school-room, how the invalid did, and the child had to give him a detailed and accurate account. Gluelphi did not take half-answers on these occasions, but was so particular in his enquiries, that if the child had not asked the sick person at home, he would

at once betray his ignorance, and be overwhelmed with such confusion, that he would certainly never leave home again without having informed himself on the subject. The children were asked likewise, whether they had spoken themselves to the invalid, and whether they had contributed to alleviate his sufferings, if it were only by avoiding every noise and bustle in the house. Of the older children, Gluelphi inquired whether they sat up with their sick, and how long they could bear it, and he testified to them his approbation when he found that they did so willingly. Nor did he ever omit the question, 'Are you praying every morning and every evening for your invalid, that God may restore him to health?' If he knew that a sick person was in narrow circumstances, and could not easily procure medicines and adequate diet, he asked a great many questions on these points, and if he found that there was a want of any thing conducive to health and comfort, he went to the parsonage house, or to the master spinner, or he sent word to the manor-house, and so procured what was necessary. He then generally asked the children of the more wealthy among the villagers, to carry it to the house of the sick, which often induced their parents to add some gift of their own to what was sent by Gluelphi. This gave the children so much pleasure, that it became soon a custom in the village, if any of the poor were sick, for the children of the more opulent inhabitants to ask their parents to send something or other for their relief. With the same kindness did Gluelphi provide for medical assistance. When, from poverty or ignorance, the people neglected to apply to the physician, he went himself to report their case, or, if necessary, to invite him to the sick-bed.

"It was in this spirit that he taught faith and love practically; and the children showed that they understood his instruction, more frequently by tears of emotion, or by a significant silence, than by clever answers to catechetical questions on the respective doctrines."

CHAPTER XIV.

Christopher and Eliza—Fireside Wisdom—Domestic Education.

IT has already been stated that Pestalozzi, finding himself disappointed in the effect which he had hoped Leonard and Gertrude would produce, followed up his interesting novel by a sort of practical comment, intended to direct the attention of his readers from the story to its *morale*. It consists of thirty dialogues, in which Christopher, an intelligent farmer, canvasses with his family, chapter by chapter, the history of Bonnal. The chief interlocutors are, besides himself, his wife Eliza, Josiah, his head servant, and Frederick, his eldest son. Some of his neighbours too occasionally drop in, and take part in the discussion, which is replete with sound argument, conveyed in the homely style of the Swiss peasantry. Now and then, however, the author seems to forget the disguise which he has assumed; and fragments of abstract reasoning in the language of the educated classes interrupt the strain of native wit and lively illustration which runs through the volume. This may in some measure account for the fact, that this work never reached that part of the public for whom it was intended, while its general tone and manner was not likely to gain great popularity in the world of literature. As a whole it would be unintelligible to English readers, even if it admitted of translation; nevertheless they may form a tolerably correct notion of the mode in which the subject is handled, from the following specimen:

“‘That is my chapter, father!’ said Eliza, when Christopher had read

the twelfth chapter of our book;* 'a pious mother, who herself teaches her children, seems to me to be the finest sight on the earth.'

" 'It is a very different one from a school-room, at all events,' said Josiah.

" *Eliza*.—'I did not mean to say that schools are not very good.'

" *Christopher*.—'Nor would I allow myself to think so.'

" *Josiah*.—'Well, and it is true after all, that nothing of what the schoolmaster can say, will ever reach children's hearts in the same way as what their parents teach them; and, generally speaking, I am sure there is not in school-going all the good that people fancy there is.'

" *Christopher*.—'I am afraid, Josiah, thou art rather straining thy point. We ought to thank God for all the good that there is in the world, and as for the schools in our country, we can't thank Him enough for them.'

" *Josiah*.—'Well spoken, master. It is well that there are schools; and God forbid that I should be ungrateful for any good that is done to us. But with all this I think that he must be a fool who, having plenty at home, runs about begging; and that is the very thing which our village folks do, by forgetting all the good lessons which they might teach their children at home, and instead thereof sending them every day to gather up the dry crumbs which are to be got in our miserable schools. I am sure that is not quite as it ought to be.'

" *Christopher*.—'Nor is it, perhaps, quite as thou hast put it.'

" *Josiah*.—'Nay, Master! but only look it in the face, and thou'lt surely see it the same as I do. That which parents can teach their children is always what they stand most in need of in life; and it is a pity that parents should neglect this, by trusting in the words which the schoolmaster makes them get by heart. It is very true they may be good and wise words, and have an excellent meaning to them, but, after all, they are only words, and coming from the mouth of a stranger they don't come half as near home as a father's or a mother's words.'

" *Christopher*.—'I cannot see what thou wouldst be at Josiah.'

" *Josiah*.—'Look, Master! The great point in bringing up a child is, that he should be well brought up for his own house; he must learn to know, and handle, and use those things, on which his bread and his quiet will depend through life; and it seems to me very plain that fathers and mothers can teach that much better at home, than any schoolmaster can do it in his school. The schoolmaster, no doubt, tells the children of a great many things which are right and good, but they are never worth as much in his mouth, as in the mouth of an upright father, or a pious mother. The schoolmaster, for instance, will tell the child to fear God, and to honour his father and mother, for that such is the word of God; but the child understands little of what he says, and mostly forgets it again before he comes

* This chapter represents Gertrude in the midst of her children, teaching them, at the same time that they are engaged in spinning.—B.

home. But if at home his father gives him milk and bread, and his mother denies herself a morsel, that she may give it to him, the child feels and understands that he ought to honour his father and mother, who are so kind to him, and he will not forget his father's word which tells him that such is the word of God, as easily as the empty word of the schoolmaster. In the same way if the child is told at school to be merciful, and to love his neighbour as himself, he gets the text by heart, and perhaps thinks of it for a few days, till the nice words slip again from his memory. But at home he sees a poor neighbour's wife calling in upon his mother, lamenting over her misery, her hunger, and nakedness; he sees her pale countenance, her emaciated and trembling figure, the very image of wretchedness; his heart throbs, his tears flow; he lifts up his eyes full of grief and anxiety to his mother, as if he himself was starving; his mother goes to fetch some refreshments for the poor sufferer, in whose looks the child now reads comfort and reviving hope; his anguish ceases, his tears flow no longer, he approaches her with a smiling face; at last his mother returns, and her gift is received with sobs of gratitude, which draw fresh tears from the child's eye. Here then he learns what it is to be merciful, and to love one's neighbour. He learns it, without the aid of words, by the real fact; he sees mercy itself, instead of learning words about mercy.'

"*Christopher*.—"I must own I begin to think thou art not quite mistaken in saying, that too much value is put upon the schoolmaster's teaching."

"*Josiah*.—"Of course, master! If thou sendest thy sheep up into the mountain, thou reliest upon their being well kept by the shepherd who is paid for it, and thou dost not think of running about after them thyself; but if thou hast them at home in thy own stables, thou lookest after them thyself. Now it is just the same thing with the school; only there is this difference, that it is easy to get for the sheep pasture which is infinitely better than the food they have in the stable; but it is not so easy to find a school in which the children are better taught than they might be at home. The parents' teaching is the kernel of wisdom, and the schoolmaster's business is only to make a husk over it, and that even is a great chance whether it turn out well."

"*Eliza*.—"Why Josiah, thou makest one's brains whirl all round, about one's children. I think I see now what thou art at; and I fancy many a poor ignorant mother who now sends her children to school, without thinking any thing about it, merely because it is the custom to do so, would be very glad to be taught better."

"*Josiah*.—"There is yet another part of the story, master. What helps the common people to get through the world, thou knowest, and to have their daily bread, and a cheerful heart, is nothing else but good sense and natural understanding; and I have never found in all my life a useful man who was what they call a good scholar. The right understanding with the common people is, as it were, free and easy, and shows itself always in the proper place and season; so that a man's words don't fit but at the very

moment when they are spoken, and a quarter of an hour before or after they would not fit at all. But the school understanding brings in all manner of sayings which are fit at all times, in summer and winter, in hot and cold, in Lent and at Easter; and that is the reason why this school understanding does not do any good to common people, who must regulate themselves according to times and seasons; and that is the reason again, why their natural understandings which are in them, ought to be drawn out more. And for this there are no better teachers than the house, and the father's and mother's love, and the daily labour at home, and all the wants and necessities of life. But if the children must needs be sent to school, the schoolmaster should at least be an openhearted, cheerful, affectionate, and kind man, who would be as a father to the children; a man made on purpose to open children's hearts and their mouths, and to draw forth their understandings as it were from the hindermost corner. In most schools, however, it is just the contrary; the schoolmaster seems as if he was made on purpose to shut up children's mouths and hearts, and to bury their good understandings ever so deep underground. That is the reason why healthy and cheerful children, whose hearts are full of joy and gladness, hardly ever like school. Those that show best at school are the children of whining hypocrites, or of conceited parish-officers; stupid dunces, who have no pleasure with other children; these are the bright ornaments of school-rooms, who hold up their heads among the other children like the wooden king in the ninepins among his eight fellows. But if there is a boy who has too much good sense to keep his eyes for hours together fixed upon a dozen of letters which he hates; or a merry girl, who while the schoolmaster discoursed of spiritual life, plays with her little hands all manner of temporal fun under the desk, the schoolmaster, in his wisdom, settles that these are the goats who care not for their everlasting salvation.'

"Thus spoke good Josiah, in the overflowing of his zeal, against the nonsense of village schools, and his master and mistress grew more and more attentive to what he said.

"'Well, I trust,' said Christopher at last, 'there still may be some other light to view the matter in.'

"But Eliza replied: 'There may be twenty more lights to view it in, for aught I know. But I care not; I know this one thing, that I will have my children more about me in future; it seems very natural indeed, that fathers and mothers should themselves teach their children as much as they possibly can. I think there is a great deal in what Josiah says, and one really shudders, when one comes to reflect what sort of people our village schoolmasters generally are. There are many of them, I know, Christopher, whom thou wouldst not trust with a cow or a calf over winter; and it is very true that one ought to look more one's self after one's children, and not fancy all is well, provided one sends them to school.'"

CHAPTER XV.

Inquiries into the Course of Nature in the Development of the Human Species—A plain Picture of Man.

It is the inevitable doom of light appearing in a world of darkness, after giving the first evidence of its existence, to be enveloped for a time in impenetrable mists, raised up against it, in desperate self-defence, by the light-abhorring elements to which its radiant influence speaks as a message of destruction. Thus against the rising sun the fogs are gathering thicker and thicker, until he dispel them by the strength of his noonday beam; and thus against the Eternal Light, ever since the heavenly hosts celebrated his descent on earth, sin has been, and still is, gathering its blackest clouds, and will continue to do so till that overwhelming day when, in final triumph over all darkness, his glory shall be made manifest. This great and awful truth, equally attested by the evidence of every new day, and by the mystery of ages, finds its confirmation in the experience of every individual; and in proportion as we see the effulgence of light divine beaming in the human eye, in the same measure deep, we may conclude, has been the darkness through whose horrors the mind has penetrated to the bright regions of faith, love, and hope. Such a nightly passage was the period of Pestalozzi's life, which elapsed between his first unsuccessful experiment at Neuhof, and his renewed and more prosperous exertions for the cause of education at Stanz and Burgdorf. The former was a mere indication of those truths which, to bring into full consciousness within himself, and to realize in the world, the hand of Supreme Wisdom fitted him by affliction and disappointment of every kind. Of the deep

gloom by which his soul was oppressed at that time, he has left a striking monument behind him in his "Inquiries into the Course of Nature in the Development of the Human Species," a work which, as it appears *primâ facie* to contradict his other writings, preceding as well as succeeding, can be understood in the connexion which it has with them, only, when considered as expressive of the tumult which the misanthropic suggestions of experience raised up in his soul against the oracles of faith and love so loudly declared in his bosom. To analyse its contents, to place its truths out of the false light in which they appear, into the light of verity in which they ought to stand, to trace its errors to their fountainhead, and to correct them, would be an undertaking far beyond the design of the present pages, involving a depth of metaphysical research, and an extent of volume, which would not easily be endured; but to extract a few of the most characteristic passages will be of great avail in illustrating the tortuous march of Pestalozzi's genius.

The questions which he proposes to himself at the onset are the following :

"What am I? What is the human species?"

"What have I done? What is the human species doing?"

"I want to know what the course of my life, such as it has been, has made of me? and I want to know what the course of life, such as it has been, has made of the human species?"

"I want to know on what ground my volition and my opinions rest, and must rest, under the circumstances in which I am placed?"

"I want to know on what ground the volition of the human species and its opinions rest, and must rest, under the circumstances in which it is placed?"

As a preliminary to their solution, he gives this compendious outline of the "march of civilization:"

"By the helplessness of his animal condition man is brought to knowledge.

"Knowledge leads to acquisition, acquisition to possession.

"Possession leads to the formation of society.

"Society leads to power and honour.

"Power and honour lead to the relation of ruler and subject.

"The relation of ruler and subject lead to the distinction of nobles and commons, and to the crown.

"All these relations call for a state of law.

"The state of law calls for civil liberty.

"The want of law entails tyranny and slavery; that is to say, a state of things in which men constitute a society without the intervention of laws for their improvement, and the maintenance of mutual obligations.

"Following the course of nature in another direction, I find in myself a certain benevolence, by which acquisition, honour, property, and power, ennoble my mind, whilst without it, all these privileges of my social condition only tend to degrade me more deeply.

"Tracing this benevolence to its source, I find it to be essentially of sensual, animal origin; but I find likewise within myself a power, which will ennoble its very root, and benevolence so ennobled I call love. But there is a danger still, of love being lost in my longing for self-gratification; I feel desolate as an orphan, and I seek to rise beyond the power of imagination, beyond the limits of all research and knowledge that is possible here below, to the fountainhead of my existence, to derive from thence help against the desolation of my being, against all the ills and weaknesses of my nature."

The social compact is, in his opinion, nothing more or less than a truce entered into by the animal propensities of all parties, which would otherwise be at constant war with one another:

"Let the social constitution be ever so well whited a wall, and let the animal dispositions of power wear ever so admirably the mark of humanity, man never will truly and freely submit to an arrangement, which gives to any one the right to visit by flaying, the aberrations of his animal tendencies. The relation of man to man, in the social state is merely animal. As a mass, as a people, man submits himself not to the powers of the state in his moral capacity; in entering society, there is nothing he contemplates less than the service of God and the love due to his neighbour. He enters society with a view to gratify himself, and to enjoy all those things which, to a sensual and animal being, are the indispensable conditions of satisfaction and happiness.

"The social law is, therefore, not in any wise a moral law, but a mere modification of the animal law.

"Meanwhile, power is deeply interested in my moral condition, that my animal tendencies may never come in conflict with its own propensities. This is the reason why all over the earth it endeavours to represent the social relation as a moral tie, at least on one side. But the disposition of power to represent itself as morally related to the people, does not alter the position in which it really stands to them; and if the persons in power,

stimulated by their immoral tendencies, encourage the delusion for their own ends, with a view to cover their civil lawlessness, and their social injustice, they do nothing else but what the wolf and the fox also would do, if they could, with a view to inspire the sheep and the hen with unbounded confidence. Nevertheless, the hen does well to sleep on trees at night, and the sheep to keep to the shepherd, in spite of all that the wolf may say."

Such a view of the social compact should not be too harshly condemned, so long as there is truth in the following definition of honour:

"The savage who cuts into his skin as into a piece of board, daubs himself with dirty colours, and pierces his nose and ears, that he may suspend in them something glittering, exerts himself, with all this, much less, and gives himself less pain, than a European does for the same purpose.

"The Otaheitian toilette, and the European, are not essentially different, nor is the 'order of the bone' of the South Sea islander any way inferior to the various orders in our part of the globe.

"Throughout the whole world, the wish of distinction induces the animal man, to esteem the tail of his coat, or a ring in his nose, higher than himself, and to slay his brother for gin, beads, and ribbons, provided there be any one willing and able to pay such a price for murder."

Nothing, however, can more fully exemplify the view which pervades the whole work, than the picture which it gives of man:

"I see him in his cave, the prey of every power in nature, in equal danger from the tooth of the stronger, and the venom of the weaker brute; the sun dries up the fountain from which he drinks, the rain fills his cavern with mire; streams undermine the dike which protects his dwelling, or the sands of the desert cover his habitation; burning winds deprive him of his sight, the exhalations of the morass stop his breath; and if, for three successive days, he be unable to obtain a fish or a rat, he must die.

"Yet under all climates does he preserve his existence, and overcomes the ills of earth.

"Inexpressibly improvident, he sleeps whenever his wants are satisfied; and whenever he has nothing to fear, he suns himself, or he follows after the prey.

"His hands are ever stained with the blood of his brother; like a tyger he defends his den, and raves against his own species; he claims the ends of the earth as his own, and perpetrates whatever he chooses under the sun.

"He knows of no law and of no Lord; his will is his only law, and of sin he asks: 'What is it?'

"But much as it charms him, the bloodstained freedom of earth, he is unable to endure it; he falls asleep under the sunny palm-tree; in plenty a gnat stings him to death, and in want his own wrath consumes him.

"In whatever condition he be, he longs for a better law than that of his club.

"In whatever condition he be, he grows weary of waging never-ceasing war against his species, and he seeks union with those whose murderer he was.

"But under the icy pole, scorn and fear allow him not to venture upon peace: his heart, cold as the earth, freezes within his bosom; while, under the glowing beams of the opposite climate, his brain is consumed in a fiery rage under the injuries and miseries which he endures, and he refrains from the step which would humanize him.

"Even under the mildest climate he is afraid of his own species; he flees before the man that dwells beyond the mountains, and yet again he slays the stranger before whose people he trembles.

"Nevertheless, it is under this climate that he first stretches out the hand of peace to his brother.

"The harmonious feeling of animal satisfaction tranquillizes his spirit, while in other climates, where nature exhausts his strength, and abandons him to manifold ills, his disposition grows restless and savage.

"But where nature leads him gently by the hand, he leaves his cave with a timid, rather than a savage step. He finds a stone that is too heavy, a branch that is too high for him; he feels that, if another man were with him, he might lift the stone, he might reach the branch; he sees another man near, and a feeling rushes through him, as of hunger and mighty thirst; he is compelled to approach his brother, and in his eye there beams a look such as never beamed in it before; it is the thought, we can help one another; the eye of his brother responds to his look, their bosoms heave, they feel as they never felt before; their hands are joined, they lift the stone, they reach the branch; a new smile of joy appears on their countenances; they perceive what their united efforts can accomplish.

"They enjoy their knowledge; with their knowledge their power increases, and their enjoyment with their power; the signs of union between them are multiplied, and their voice breaks forth into language.

"They speak.

"Now it is done. As the sea by the rocky shore, so is the bloodstained liberty of earth arrested by the word of man.

"For it was waste and desolate, before the breath of his mouth, the word of his lips went over the earth.

"It is by the breath of his mouth that man builds up his world, and himself.

"As long as he was dumb, he was a brute; he speaks, and he has become man.

"Ignorance and suspicion, want and fear, now lose the terrible sway which they exercised over him, and their tyrant law is abolished.

"In his word man now acknowledges the basis of his rights and of his duties.

"He has renounced the bloodstained liberty of his nature for himself, and for his whole species.

"By his word he has become man, subject to the law which is in him, and which he has now given to himself.

"Therefore does he value his word so high; he wishes it to live for ever; he engraves it on tables of stone and of brass, and bards sing in lofty strains the law which he has given to himself, and which he claims as his own.

"How, then? Was the liberty of my nature bloodstained before it knew any law? and was I a brute before I spoke? Is it true that ignorance and suspicion preceded love, confidence, and knowledge, as the thorn and the thistle precede the goodly fruits of the ground, and that the fell sway of bestiality contaminated the earth, before justice and faithfulness offered for her sacrifices of atonement?

"Is it not true, then, that man lived, at first, peaceably on the earth, that he divided it without violence, without injustice, without blood? Is it not true, that the distinction of mine and thine arose from his feelings of justice and equity?

"Is it true, on the contrary, that man divided the earth before he united on it; that he invaded, before he possessed; transgressed, before he laboured; destroyed, before he produced; oppressed, before he cherished; murdered, before he conversed; that the breath of his mouth breathed treason, before there was a word formed on his tongue to declare a law?

"I was corrupt in bestiality, before I became civilized and human; the period of my animal innocence passed away as a moment; my brutal corruption broke in upon me suddenly, and lasted long; and it was only when I was bowed down under the wretchedness of its effects, that I submitted my neck to the yoke of society.

"It is done, however, and all the clay of the earth has now its lord; touch it not, if it be not thine own; the fowl in the air, and the fish in the water has its lord; though thou be thirsty, roll not the stone from a well which is not thine own; though thou be hungry, tear no fruit from a tree, no ear from a haum which is not thine own, nor dare to kill the game that crosses thy way.

"They will hang thee for it. Shudder not: thou thyself hast submitted to this law; the earth would have remained a wilderness, and an abode of wild beasts, and man would have been the most helpless of brutes, if thou hadst not submitted.

"But thou hast submitted, and thy cave is changed into a house; thy house separates thee from the earth, and ties thee to property, and property constitutes thee a member of society. Thy cares are extended over the objects of thy love, the helpmates of thy labours; they reach beyond the grave, for thy son shall be thine heir, thy brother shall defend thy widow, and thy friend provide for thy infant. What then hast thou lost?

"A thousand means and ways are offered to thee, for turning to account

that which has remained unemployed, by exertion, order, and knowledge, under the protection of that law which thou hast imposed upon thyself.

"On boundless tracts, plants without name or number grow in luxuriant freedom; thou destroyest them all, and sowest goodly wheat on the boundless tracts.

"Thou cuttest down the glory of the mountains, and plantest the shrub of thy choice on the sunny hills.

"Thou heapest up thine own species, as winds and waves gather the floating sands. Men dwell together like herrings in a bay, or like ants on a puny hill. Nations are locked in by one bolt; in the morning the gate opens, and a world is poured out over the earth.

"Thou sayest to the deep: 'Touch no longer the sands which were thine of old. Thou plantest the watery reed on dry heaths, and in the depth of morasses the flame-coloured madder. Thou measurest the orbs of the stars, and in a thousand years mistakest not an hour of the shadows in the heavens.

"One man cultivates a tract in which hundreds might live, while another subsists on hardly more ground than his corpse will cover.

"This man, by one word, can cause the productions of distant climes to succeed each other, like the fruits of adjoining gardens.

"The stroke of a pen is suspended, and thousands tremble for their lives; for on one hand depends the bread of them all.

"Man is a mighty miracle in the chaotic night of unsearchable nature.

"Ever variable, he undermines his happiness by appeals to the law, and the law again by appeals to chance. Miserable and lawless, he bears the burden of an exhausted existence. On the scaffold here bleeds a woman greater and nobler than the generation in which she lived; in exile there a beggar feels exalted above his king, who shut his ear against him, and banished him from his presence.

"A degraded wretch cherishes in his soul contempt of mankind, and hardens himself in his errors; he provokes the slanderer to reproach him yet more: while the scorn of his pride debases him in his nature, and makes true the calumnies of his detractor.

"Here a delicate woman atones on her knees for a word of offence, which escaped from her lips, and her eyes dare not meet the man whom the most sacred of ties cannot bind; an adorable wife serves in dark obscurity the vile caprices of a husband, whose malignant sneers are unable to disturb the calm composure of her lips. What is all this?

"Nations forgive the crimes of a man, who has extinguished the feelings of humanity in their hearts, who devotes their sons to death, and their daughters to dishonour, who abandoned their cities and villages to plunder, who converted their houses into heaps of stones, their gardens into wastes, and the whole land into a wilderness.

"There nations, like tame bullocks, follow an infant that leads them by a slender thread, and spill their blood for every caprice of the child or of

his nurse. Here they are suffocated, like flies under the air pump, by the empty vanity of power; and there again they are drowned in the abundance of their wealth, like bees in overflowing honey. A man turns insane, and speaks nonsense, such as was never heard before, and nations prostrate themselves before him, build altars, and learn piety, order, obedience, and humanity, in the worship of a calf, or of the devil. Legions of knaves lurk in the temples of justice like greedy cats before the holes of mice, and for whole centuries my species is contented to be consumed by them.

"How then shall I find the clue by which I may enter this labyrinth of misery and well-being, of wisdom and folly, of madness and high elevation of mind?

"Even while he dwells in his cave, there is no equality between man and man; under the roof, behind the brick wall and the bolt, the inequality increases; and, when hundreds and thousands are gathered together, he is compelled, in spite of himself, to say to the strong, 'Be thou my shield;' and to the cunning, 'Be thou my guide;' and to the rich, 'Be thou my preserver.'

"This is the origin of power, deeply founded in our nature, and indispensably connected with the development of our species; like the stream which distributes moisture and blessing, when dikes and locks confine it within its due bounds, but when it overflows its borders, and breaks through its limits, lays the country waste; so power is sacred only, when those that hold it, keep faithfully within the bounds assigned to them by the rights of their species.

"It is not power that causes the corruption of our species, but the person in whose hand the power is, or he who criminally misleads that person. When man cannot rise to the divine virtue of fidelity, when his word is like a reed shaken by the wind, when the possession of power raises him no higher, nor renders him more faithful than the man against whose weakness he has to defend himself, then he destroys with the strength of his arm the rights of mankind, and fattens the earth which he renders desolate, with the blood of those against whom he has violated his own word, and the laws of everlasting justice.

"But even in the struggle of lies and injustice our species is developed and rises to the feeling of every dignity, and to the possession of every power, that is implanted in human nature.

"Be not troubled, then, while thou hast to sustain the warfare of truth and justice; tremble not when lies conquer; but the more thou seest the brutality of thy species obtain against truth and justice, the more study thou its corruption: and if thou shouldst be ensnared by the bonds of lawlessness, as the fly by the spider's web, learn to die, that thou mayest remain faithful to thyself, and to thy species.

"It is done, alas; the earth is desecrated by the homage paid to profane power by exalted brutality.

"The insane faithlessness of power has stirred up the feelings of self-defence in the corrupt multitude; and the furious people aim the knife at its guilty throat.

"All the bonds are torn asunder by which power was formerly preserved in a sense of its obligations, under continual temptations to defection and treason.

"Incalculable is the misery of our superannuated continent. An eternal and unchangeable law turns the balance of mortal existence for ever on the side of animal energies and tendencies; and he who combines with them the advantages of power will ever say to the weaker part of his species: ye are made for my sake! And he plays on their crowded ranks as on the wires of the dulcimer. What is it to him whether the wires break or not, they are only wires; as many as there are men in the land, so many are his wires; as many as break, he throws away, and draws new ones across his damaged instrument; for are they not mere wires?

"Alas they are men! but they grow up in the inexpressible degradation of a lawless servitude like the claws on the paws of a bear; they know not what is the design of the growling animal that rests on them; but they are always ready to assail the entrails of any one against whom he may growl.

"Alas they are men! and the degradation of this servitude reduces them again to the state in which they were, before they called power into existence, and said to the strong man: Be thou our shield and our king.

"When once power has become unfaithful, and has learnt to palliate the sin of treason by cold unmeaning language, then the law of humanity is departed from the earth.

"It then says to the weak of our species: This is my law which thou shalt obey. I will sell thee to the kingly nation, which gives me money for thy life and for thy death; beat the drum, and hail the kingly nation that pays so much for human life. Hail the noble race which learns of kings the price of humankind. Hail it with shouts of gratitude, for it directs its golden streams into the bosoms of men-selling rulers, that they, being secured on their thrones, may henceforth offer our species for sale to the men-purchasing island; that our continent may remain what it is, an old rotten structure, daily menacing a complete ruin, lawless, divided, unassisted, and unassistable; and that no nation on the earth may become as this kingly nation, domineering over the seas, and directing the countries as with leading-strings. It is done! the earth is desecrated by the homage paid to profane power by exalted brutality.

"If thou find a gem that glitters in the sun, thy tyrant speaks: Thou and thy children shall dwell in eternal night; all your lives you shall seek beneath the earth for brilliant gems.

"In the depth of the earth, in the horrid darkness of noxious vapours, the injured mother forgets the sun, and the light of day, which she is no longer permitted to behold; she praises the lord who sends her bread in the

abodes of darkness; she thanks him in the foul air which she breathes, for every strengthening draught; she presses the dying heir of her wretched existence, whose features she scarcely can discern, to her bosom, with heartfelt delight; she dutifully rejoices at every gem which she finds, and sends it up to her ruler, who beholds the sun, and enjoys all the pleasures of day.

"Is she not an angel in the vaults of night? but is our species such an angel?"

"Enthralled by a power which acknowledges no law against itself, man sinks back into all the helplessness and obtuseness of his natural corruption; and the general spread of Sansculotism leads to the dissolution of the social ties.

"Before this comes to pass, kings grow hardened on their thrones like the ancient oak; deep horror hovers round their crowns; they stand isolated like barren rocks surrounded by bottomless precipices; celibatarian monks, and misanthropic bachelors, become the last pillars of the state, till they too begin to give way; and then in the desolation of anarchy, which wanton lawlessness has brought on, nations sink into dissolution as corpses in their graves."

That a man whose imagination was dwelling on images like this, whose eye was turned away from the bright prospects of faith, and exclusively directed to the horrors by which our species has contaminated the earth, should writhe under the keen feeling of human degradation, in which he felt himself involved, is no more than might be expected; and accordingly we find Pestalozzi, at the close of the volume which presents human nature under so gloomy an aspect, giving the following portrait of himself:

"Thousands pass away, as nature gave them birth, in the corruption of sensual gratification, and they seek no more.

"Tens of thousands are overwhelmed by the burdens of craft and trade; by the weight of the hammer, the ell, or the crown, and they seek no more.

"But I know a man who did seek more; the joy of simplicity dwelt in his heart, and he had faith in mankind such as few men have; his soul was made for friendship, love was his element, and fidelity his strongest tie.

"But he was not made by this world, nor for it; and wherever he was placed in it, he was found unfit.

"And the world that found him thus, asked not whether it was his fault or the fault of another: but it bruised him with an iron hammer, as the bricklayers break an old brick to fill up crevices.

"But though bruised, he yet trusted in mankind more than in himself; and he proposed to himself a great purpose, which to attain he suffered agonies, and learned lessons such as few mortals had learnt before him.

"He could not, nor would he become generally useful; but for his purpose he was more useful than most men are for theirs; and he expected justice at the hands of mankind, whom he still loved with an innocent love. But he found none. Those that erected themselves into his judges without further examination confirmed the former sentence, that he was generally and absolutely useless.

"This was the grain of sand which decided the doubtful balance of his wretched destinies.

"He is no more; thou wouldst know him no more; all that remains of him are the decayed remnants of his destroyed existence.

"He fell, as a fruit that falls before it is ripe, whose blossom has been nipped by the northern gale, or whose core is eaten out by the gnawing worm.

"Stranger that passest by; refuse not a tear of sympathy; even in falling this fruit turned itself towards the stem, on the branches of which it lingered through the summer, and it whispered to the tree; 'Verily, even in my death will I nourish thy roots.'

"Stranger, that passest by, spare the perishing fruit, and allow the dust of its corruption to nourish the roots of the tree, on whose branches it lived, sickened, and died."

CHAPTER XVI.

*How Gertrude Teaches her Little Ones—Sketch of Self-biography—
Early Aspirations—The Experiment at Stantz.*

SUCH was the language of Pestalozzi's weary soul, after all his sanguine anticipations had been disappointed, all his prospects of usefulness destroyed, when years began to bleach his head, and sorrow to break his heart. Little did he then suspect, that a few years more would bring him nearer his aim than he had ever been; and that, at an age at which it is more natural for man to review the past, than to form projects for the future, a career would be opened to him, compared to which all his former exertions must in his own eyes have dwindled into utter insignificance. The progress of this important alteration, both in his position and in his views, he has himself amply detailed in his letters to his friend Gessner, which were published under the title, "*How Gertrude Teaches her Little Ones*," and of which, as it is among all his works the most important for the purpose of the present volume, we shall present our readers with a fuller analysis and more copious extracts, than our limits would permit us to do with reference to his other writings.

Before entering upon the subject-matter of this publication, which was intended to give to the public "as clear an insight as possible into his views," the author gives in the first letter an outline of his career, which we are the less inclined to suppress, as the light in which he himself viewed the progress of his mind, accounts for much of that metaphysical obscurity, and many of the mistakes, to which we shall in the sequel have occasion to advert:

"Popular education once lay before me like an immense marsh, in the mire of which I waded about, until I had discovered the sources from which its waters spring, as well as the causes by which their free course is obstructed, and made myself acquainted with those points from which a hope of draining its pools might be conceived.

"You shall now follow me yourself for awhile through those labyrinthian windings, from which I extricated myself by accident rather than by my own art or reflection.

"Ever since my youthful days the course of my feelings, rolling on like a mighty stream, was directed to this one point; namely to stop the sources of that misery in which I saw the people around me immersed.

"It is now more than thirty years since I first put my hand to this same work, which I am still pursuing. Iselin's Ephemerides bear witness that my present dreams and wishes are not more comprehensive than those which I was even then seeking to realize.

"I lived for years together in a circle of more than fifty pauper children; in poverty did I share my bread with them, and lived myself like a pauper, to try if I could teach paupers to live as men.

"The plan which I had formed for their education embraced agriculture, manufacture, and commerce. But, young as I was, I knew not what attention, and what powers, the realization of my dreams would require. I allowed myself to be guided by a deep and decided feeling of what seemed to me essential to the execution of my project; and it is true that with all the experience of after-life I have found but little reason to modify the views I then entertained. Nevertheless my confidence in their truth, founded upon the apparent infallibility of my feeling, became my ruin. For it is equally true on the other hand, that in no one of the three departments above mentioned did I possess any practical ability for the management of details, nor was my mind of a cast to keep up a persevering attention to little things; and in an insulated position, with limited means, I was unable to procure such assistance as might have made up for my own deficiencies. In a short time I was surrounded with embarrassments, and saw the great object of my wishes defeated.

"In the struggle, however, in which this attempt involved me, I had learned a vast deal of truth; and I was never more fully convinced of the importance of my views and plans than at the moment when they seemed to be for ever set at rest by a total failure. My heart too was still aiming at the same object; and being now myself plunged into wretchedness, I had a better opportunity, than any man in prosperity ever can have, of making myself intimately acquainted with the wretchedness of the people, and with its sources. I suffered even as the people suffered; and they appeared to me such as they were, and as they would not have shewn themselves to any one else. For a length of years I sat amongst them like the owl

among the birds. I was cast away by men, and their sneers followed after me. 'Wretch that thou art!' they exclaimed; 'thou art less able than the meanest labourer to help thyself, and yet thou fanciest thyself able to help the people!' Yet amidst the scorn which I read on all lips, the mighty stream of my feeling was still directed to the same point; to stop the sources of the misery in which I saw the people around me sinking; and in one respect, at least, my power was daily increased. My misfortune was a school, in which Providence had placed me to learn truth for my great object; and I learned of it more and more. That which deceived no other, has ever deceived me; but what deceived every one else, now deceived me no longer.

"I knew the people in a manner in which no one around me knew them. The glitter of prosperity arising from the newly introduced manufactures,* the freshened aspect of their houses, the abundance of their harvests, all this could not deceive me; nor even the Socratic discoursing of some of their teachers, nor the reading associations among bailiffs' sons and hair-dressers.† I saw their misery, but I lost myself in the vast prospect of its scattered and insulated sources; and while my knowledge of their real condition became every day more extensive, my practical capability of remedying the evils under which they laboured, increased in a far less proportion. Even Leonard and Gertrude, the work which sympathy with their sufferings extorted from me, was, after all, but the production of my internal inability to offer them any real help. I stood among my contemporaries like a monument which bespeaks life, but is in itself dead. Many cast a glance upon it; but they could appreciate me and my plans no better than I myself was able to form a correct estimate of the various powers, and the details of knowledge, necessary to carry them into effect.

"I grew careless; and being swallowed up in a vortex of anxiety for outward action, I neglected to work out to a sufficient depth, within my own mind, the foundations of what I intended to bring about.

"Had I done this, to what internal elevation might I have risen for the accomplishment of my purposes! and how rapidly should I then have reached my aim! I attained it not, because I was unworthy of it; because

* Cotton manufactures were at this period introduced in some of the cantons of Switzerland; and from them the political economists, in their wisdom, presaged the return of the golden age among their snow-capped mountains. *Mutato nomine de te fabula narratur!* B.

† Nor would he have been deceived, had he lived among us, by an increased consumption of manufactured goods, by an extensive currency, by the genteel appearance of drawing-rooms and parlours, by the high rate of rents; no, nor even by the march of intellect, the spread of useful knowledge, and the almost universal distribution of the Bible. B.

I sought it merely in the outward : because I allowed my love of truth and of justice to become a passion which tossed me about, like a torn-up reed on the waves of life, nor would permit me to take root again in firm ground, and to imbibe that nourishment and strength of which I stood so much in need for the furtherance of my object. It was far too vain a hope, that some one else would rescue that loose reed from the waves, and secure it in the ground in which I myself neglected to plant it.

"Oh, my dear friend! Who is the man that has but one feeling in common with my soul, and knows not, how low I must now have sunk? And thou, my beloved Gessner, before thou readest on, wilt consecrate a tear to my course.....

"Deep dissatisfaction was gnawing my heart; eternal truth and eternal rectitude were converted by my passion into airy castles. With a hardened mind I clung stubbornly to words and sounds which had lost within me the basis of truth. Thus I degraded myself every day more with the worship of commonplaces, and the trumpeting of those quackeries, wherewith these modern times pretend to better the condition of mankind.

"I was not, however, insensible to this internal abasement, nor did I fail to struggle against it. For three years I toiled, more than I can express, over my 'Inquiries into the Course of Nature in the Development of Mankind,' chiefly with a view to get settled in my own mind as to the progress of my favorite ideas, and to bring my innate feelings into harmony with my notions of civil right and moral obligation. But this work, likewise, is no more than a testimony of my internal incapacity; a mere play of my reflective faculties. The subject is not comprehensively viewed, nor is there a due exercise of power to combat myself, or a sufficient tendency to that practical ability which was requisite for my purposes. It only served to increase that deficiency within myself, arising from a disproportion between my power and my knowledge, which it was indispensable that I should fill up, though I grew every day more unable to do so.

"Nor did I reap more than I sowed. My book produced upon those around me the same effect as every thing else I did; hardly any one understood me; and in my immediate neighbourhood there were not two men to be found, who did not hint that they considered the whole book as a heap of nonsense. And even lately, a man of importance, who has much kindness for me, said with Swiss familiarity: 'Don't you now feel yourself, Mr. Pestalozzi, that when you wrote that book, you did not know what you wanted to be at?' Thus, however, to be misunderstood and wronged was my lot: but instead of profiting by it, as I ought to have done, I waned against my misfortune with internal scorn and a general contempt of mankind; and by thus injuring the foundation, which my cause ought to have had within myself, I did it infinitely more harm than all those could do, by whom I was misunderstood and despised. Yet I had not lost sight of my aim; but my adherence to it was no more than the obstinacy of a perverted

imagination and a murmuring heart; it was on a profaned soil that I sought to cherish the sacred plant of human happiness.

"I, who had just then, in my 'Inquiries,' declared the claims of civil right as mere claims of our animal nature, and therefore as essential impediments to moral purity, the only thing that is of real value to human nature, now descended so low, that amidst the violent convulsions of the revolution I expected the mere sound of social systems, and of political theories, to produce a good effect upon the men of my age, who, with few exceptions, lived upon mere puff and swell, seeking power, and hankering after well set tables.

"My head was grey; yet I was still a child. With a heart, in which all the foundations of life were shaken, I still pursued, in those stormy times, my favorite object; but my way was one of prejudice, of passion, and of error. To bring to light the inveterate causes of social evils, to spread impassioned views of the social constitution and the unalterable basis of man's rights, nay, to turn to account the spirit of violence which had risen up amongst us, for the cure of some of the ills under which the people suffered; such were the means by which I hoped and sought to effect my purpose. But the purer doctrines of my former days had been but sound and word to the men among whom I lived; how much less, then, was it to be expected, that they should apprehend my meaning in the view which I now took. Even this inferior sort of truth they contaminated by their filth: they remained the same as ever; and they acted towards me in a manner which I ought to have anticipated, but which I did not anticipate, because the dream of my wishes kept me suspended in mid-air, and my soul was a stranger to that selfishness by which I might have recognised them in their true colours. I was deceived not only in every fox, but also in every fool, and to every one that came before me, and spoke well, I gave full credit for the sincerity of his intentions. With all this I knew more than any one else, about the people, and about the sources of their savage and degraded condition; but I wished nothing further than that those sources might be stopped, and the evils which sprang from them arrested; and the new men (*novi homines*) of Helvetia, whose wishes went farther, and who had no knowledge of the condition of the people, found, of course, that I was not made for them. These men, in their new position, like shipwrecked women, took every straw for a mast, on which the republic might be driven to a safe shore; but me, me alone, they took for a straw, not fit for a fly to cling to.

"They knew it not, they intended it not; but they did me good, more good than any men have ever done me. They restored me to myself; for in the amazement caused by the sudden change of their ship's repair into a shipwreck, I had not another word left, but that which I pronounced in the first days of confusion: 'I will turn schoolmaster.' For this I found confidence. I did turn schoolmaster. Ever since I have been engaged

a mighty struggle, and compelled, as it were, in spite of myself, to fill up those internal deficiencies by which my purposes were formerly defeated.

"To lay open before you, my friend, the whole of my existence, and my operations, since that period, is my present task. Through Legrand I had made some interest with the first Directoire for the subject of popular education, and I was preparing to open an extensive establishment for that purpose in Argovie, when Stantz was burnt down, and Legrand requested me to make the scene of misery the first scene of my operations. I wept; I would have gone into the remotest clefts of the mountains to come nearer to my aim; and now I really did come nearer.... But imagine my position.... Alone, destitute of all means of instruction, and of all other assistance, I united in my person the offices of superintendent, paymaster, steward, and sometimes chambermaid, in a half-ruined house. I was surrounded with ignorance, disease, and with every kind of novelty. The number of children rose by degrees to eighty; all of different ages; some full of pretensions; others inured to open beggary; and all, with a few solitary exceptions, entirely ignorant. What a task! to educate, to develop these children, what a task?

"I ventured upon it. I stood in the midst of these children, pronouncing various sounds, and asking them to imitate them; whoever saw it, was struck with the effect. It is true it was a meteor which vanishes in the air as soon as it appears. No one understood its nature. I did not understand it myself. It was the result of a simple idea, or rather of a fact of human nature, which was revealed to my feelings, but of which I was far from having a clear consciousness."

This simultaneous production of sounds, which was Pestalozzi's first and, no doubt, a most judicious means for assimilating a mass of heterogeneous elements, has been adopted with similar success in the first establishment of infant-schools; and has since acquired a sort of popularity, which has greatly accelerated the evil, almost inevitable, of its being turned into an abuse. It seems, therefore, proper to examine its nature somewhat more closely, in order to ascertain what connexion it really has with the Pestalozzian plan of education, of which it has been made by some the main prop.

The first and most obvious feeling aroused by a simultaneous act of any sort, is that of unity. Hence the pleasing effect which the simultaneous movement of a regiment of soldiers produces, and hence the invariable tendency of children to imitate military exercises. The taste for dancing,

the only fashionable amusement of the Hottentot, proceeds from the same cause; and many other phenomena of a higher cast, for instance the impressive effect of the responses, when followed up by the whole congregation, are in a great measure to be referred to this feeling of delight in union of any kind. And let it not be supposed, that this is an isolated fact of our feelings; the beauty of the whole creation consists in the union of its millions to one constant and ever-renewed act of life.

With reference to man in particular, we may observe, that his taste for union not only becomes more intense in proportion to the number of individuals united, but that it also gains in depth and refinement, when the higher and nobler faculties of his being are called into simultaneous action. A general clapping of hands is one of the favorite exercises in an infant-school; and the sound of a thousand feet stamping the ground at one instant, enchants the ears of an uncultivated youth, and prompts him to join his supernumerary limbs with those of the marching regiment. But the sound of our voice is a far more powerful and characteristic means of expressing our feelings than the motion of our limbs, and, accordingly, the simple uniform repetition of any, even the most monotonous and unmeaning sound, is music to the ears of children and of savages, while the hauling of an anchor is materially facilitated by the sailors' call. The measuring of time, and its uniform division, is an indispensable condition of every simultaneous movement; and as an intellectual operation, though of the very lowest kind, it forms an essential ingredient of the internal delight which the movement produces. This internal delight is increased, if, to the harmony of time, that of tone be added; and in their joint effect consists the deep charm of music. The value of music again is raised, if, with its sounds, the feelings of kindred affections, or the higher ones of adoration, be associated in simultaneous expression; and, abstracting from all that is external, or addresses itself to the senses, nothing can be more ravishing than the idea of myriads

whose deepest and unuttered thoughts are united in an everlasting harmony of love and praise to the Father of Spirits.

Such is the effect of one and the same feeling at different stages of human development. Its powerful influence is manifest ; its tendency cannot be condemned, because it is met with, whenever man is progressive towards good, and we find him skirting from it, into selfish shyness, whenever he is conscious of evil. The question then is for us, what use is to be made of it in education ?

This depends entirely on the stage of development which the children have attained. With such as have grown up in a condition almost savage, or worse than savage, and who are for the first time brought together under an influence intended for their improvement, the lowest degree of simultaneous action is calculated to arouse the soul from that selfish indolence, in which it loves nothing, and observes nothing but self, and disturbs every thing around it, not from a wish to do so, but from an exclusive tendency to follow self, and from an entire inattention to the fact, that there exists any thing besides self. For this purpose Pestalozzi made his children pronounce sounds together ; and his "meteoric" success was the natural effect of the lever which he brought into action. But had he stopped there, as many of his pretended disciples have done, had he continued to pronounce sounds and elicit their simultaneous imitation, his experiment would have terminated as the sound vanished amid his mountains. And if he had put all the words of wisdom and of virtue simultaneously into the mouths of his children, it would still have been the same. But Pestalozzi was too wise to commit such a mistake, and to cling with thoughtless confidence to a means, however powerful, because he found it answering well in the commencement. We shall see, in the progress of his narrative, how he availed himself of the success of this first experiment for the attainment of more important objects. In the mean time our readers will, no doubt, feel interested here by a more detailed explanation of the manner in which simultaneous language may with

advantage be applied to instruction generally. For this purpose it ought to be a rule with the teacher never to employ this means for bringing a new subject before his pupils, or inculcating something which they knew not before, but to confine its use exclusively to repetition. A practical illustration will show this more clearly. Suppose the object of the lesson to be the analysis of the first numbers, by addition and subtraction, the mode of proceeding would be the following:

The teacher writes on the slate first;

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The former he calls two; the latter one and one.

He then writes three, and asks for the different ways of making them up of two numbers; when he will receive the following answers: one and two, two and one,

The same is done with four,

With five,

And so on to any extent.

The pupils may give their answers either verbally, or by writing the different cases themselves on their slates, from which the teacher copies them on the general lesson board; at first in the order in which they occur, taking care to add a special exercise for the purpose of bringing them into some uniform order. After this, he proceeds to repetition, by pointing to the cases of the analysis, one after the other

letting the children express with one voice, what is written on the board; in this manner:

One and one.

One and two.

Two and one.

One and three.

Two and two.

Three and one.

One and four.

Two and three.

Three and two.

Four and one.

After this he may point to them promiscuously, to prevent the children from falling into a mere routine, thus:

Two and one.

Two and two.

Three and two.

Three and one, &c. &c.

Lastly, the teacher may rub out the whole lesson, and desire it to be repeated simultaneously from recollection, and if the pupils be familiar with the subject, he may even ask for the analysis of a new number extempore, it being understood, that the order of the cases shall be upon the same principle as in the analysis of the preceding numbers. This order, of course, admits of variation, which will form a source of new exercises, both by writing on the board and by simultaneous repetition.

Whoever will take the trouble of reflecting on the effect which this mode of proceeding must produce upon children's minds, will easily discover the difference between the simultaneous repetition of a lesson produced by the children themselves, and the mere inculcation, through the ear, of a lesson with which their own minds have never grappled. To such it will be apparent, that the simultaneous repetition, whether

in a musical form or not, of addition, multiplication, pence, weight, and other tables, now so common in public charity-schools, so far from forming a part of Pestalozzi's plan, is, on the contrary, a mere caricature of it. We certainly wish that those who take upon themselves to set up model-schools "on the Pestalozzian system," or to introduce "Pestalozzian improvements," would first qualify themselves for their undertaking, by making themselves acquainted with the spirit of Pestalozzi's views, lest by running away with empty forms, they become in the end blind leaders of the blind.

But we return to the narrative of our author:

"Being obliged to instruct the children by myself, without any assistance, I learned the art of teaching a great number together; and as I had no other means of bringing the instruction before them, than that of pronouncing every thing to them loudly and distinctly, I was naturally led to the idea of making them draw, write, or work, at the same time. The confusion of so many voices, repeating my words, suggested the necessity of keeping time in our exercises, and I soon found that this contributed materially to make their impressions stronger and more distinct. Their total ignorance forced me to dwell a long time on the simplest elements; and I was thus led to perceive, how much higher a degree of internal power is obtained by a persevering attention to the elementary parts, until they be perfectly familiar to the mind; and what confidence and interest the child is inspired with, by the consciousness of complete and perfect attainment, even on the lowest stage of instruction. Never before had I so deeply felt the important bearing which the first elements of every branch of knowledge have upon its complete outline; and what immense deficiencies in the final result of education must arise from the confusion and imperfection of the simplest beginnings. To bring these to perfection and maturity in the child's mind became now a main object of my attention; and the success far surpassed my expectations. The consciousness of energies hitherto unknown to themselves was rapidly developed in the children, and a general sense of order and harmony began to prevail among them. They felt their own powers, and the tediousness of the common-school tone vanished, like a spectre, from our room; they were determined to try; they succeeded, they persevered, they accomplished, and were delighted. Their mood was not that of laborious learning, it was the joy of unknown powers aroused from sleep; their hearts and minds were elevated by the anticipation of what these powers would enable them to attempt and to effect.

"Children became the teachers of children. They endeavoured to carry into effect what I proposed, and in doing so, they themselves frequently

traced the means of execution. Their spontaneous activity was called out in every direction, as far as the elements of knowledge go : and I was brought to the firm conviction, that all instruction, to have a truly enlightening and cultivating influence, must be drawn out of the children, and, as it were, begotten within their minds. To this also I was brought chiefly by necessity. Seeing that I had no assistant-teachers, I placed a child of superior capacities between two of inferior powers. He threw his arms round their necks ; he taught them what he knew, and they learned from him what they knew not. They sat by the side of each other with heart-felt affection. Joy and love animated their souls ; the life which was awakened within them, and which had taken hold of their minds, carried both teachers and learners forward with a rapidity and cheerfulness which this process of mutual enlivening alone could produce."

We cannot close this chapter without noticing another of the many gross misunderstandings, which have gone forth on the subject of Pestalozzi's method. Often, when inveighing against the monitorial system of Bell and Lancaster's methods, we have been replied to: "Pestalozzi himself made use of mutual instruction." Such is the effect of the thoughtless use of mere words, that the most opposite things assume an appearance of sameness from a coincidence of sounds. Pestalozzi employed one child to teach another ; this is mutual instruction, no doubt. Bell and Lancaster employ one child to teach another ; this, too, is mutual instruction.

But Pestalozzi awakened in one child a consciousness of his powers, and a tendency to mental self-activity ; and the child so awakened he called in, to assist him in awakening other children in the same manner, by the same means. Pestalozzi led his children by the love which they bore him, by the moral ascendancy which he had gained over them, so that whithersoever he led the way, they were willing to follow ; and in the same manner he taught his children to treat one another.

Bell and Lancaster, on the contrary, drill one child through an artificial machinery of lifeless tasks, and the child, so drilled, they employ to drill others in the same manner, and by the same means. Bell and Lancaster restrain their children by fear, and excite them by artificial and mercenary

motives, that, for hire's sake, the natures of the children may yield themselves to the *unnature* of the system; and the same means of direct and indirect compulsion they place in the hands of their subordinate drillers.

Is, then, Pestalozzi's mutual instruction the same with Bell's and Lancaster's? And if a man endeavour to expose the corruptness of a system calculated to foster at the same time the growth of the two basest feelings of the human bosom, despotism and servility, or if he represent the deadening influence which the mechanical driving on through a certain set of lesson-boards, and other tasks, must have upon the minds of children, is it fair to reply, that Pestalozzi himself was an advocate for mutual instruction?

Oh, that men would not harden their hearts and their heads by the repetition of hollow sounds! Oh, that they would not substitute a clinging to terms of temporary popularity, for an adherence to the unalterable nature of things; or, at least, that men so hardened and so blinded against the real claims of human nature, and the true means of satisfying them, would not presume to regulate the moral and intellectual state of the rising generation! When will it be felt that education is a sanctuary in which none that is not duly prepared, should intrude himself? and, when will the most obvious truth be apprehended, that a guinea, or even a ten-guinea subscription, is no proof of the qualifications of the donor, though it may be of his intentions, for carrying forward the improvement of mankind? Let all the supporters of public institutions consider, that zeal without knowledge, and without humility, ever impedes the cause which it professes to promote.

CHAPTER XVII.

*The Experiment at Burgdorf—Nature the Schoolmaster's Guide—
Leading Ideas.*

AFTER the picture of the asylum at Stantz, given in the preceding chapter, our author proceeds to a somewhat lengthy account of the difficulties which he experienced, when, after the breaking up of that institution, he went, by the advice of his friends, to Burgdorf. The chief actors in this interlude, the petty rulers and pedantic schoolmasters of a small borough, having no claim whatever upon a personal introduction to the English public, we pass over all that concerns them and their intrigues for and against "the new system," and resume the thread of Pestalozzi's narrative, after we find him, as has already been related in the fourth chapter, the last in rank among the moderators of the march of intellect in Burgdorf, bringing up the rear in a dame school, where the pupils being all infants, it was thought he could not do much harm.

"I began again crowing my A B C from morning to night; and, without any settled plan, continued that empiric march, in which I had been interrupted at Stantz. With indefatigable zeal, I joined syllables to syllables; and wrote whole books full of spelling exercises, and numerical tables; I tried in every possible way to reduce the beginnings of spelling and ciphering to the greatest simplicity, by putting them into such forms, as would lead the child by slow degrees, and in a manner perfectly congenial with the nature of the human mind, from the first step to the second; and from this, without leap or omission, and with equal security, though more rapidly, to the third, then to the fourth, and so on. But instead of getting the children to form letters with their pencil, as I had done at Stantz, I now gave them angles, squares, straight lines, and curves to draw.

"During these endeavours, the idea of making an alphabet of forms* was gradually developed in me. I had not, however, at first, a very distinct notion of it myself, but in proportion as the subject emerged in my mind from its obscurity, my conviction of its importance for the whole of my proposed method of instruction increased. It lasted a long time before I saw quite clearly in it; my progress was inconceivably slow. I had for several months, already, been engaged in the attempt of bringing the different means of instruction back to their elements, and taken great pains to reduce them to the utmost simplicity; yet I was still ignorant of the connexion which they have with each other; or, at least, I had not come to a clear consciousness of it, though I felt hourly, that I was advancing, and with rapid strides. . . .

"By handling every, even the most dusty part of school duties, and that in a manner which was any thing but superficial; by teaching away from eight in the morning till seven in the evening, with the interruption of but a few hours, I could not but hit every moment upon facts clearly attesting the existence of certain physical and mechanical laws, to which our mind is subject in the receiving and fixing of external perceptions. I had a sort of feeling of these laws, by which I was daily more influenced in the organization of my means of instruction; but I had no clear conception of the principle on which I proceeded. At length, having endeavoured last summer to explain the nature of my experiments to Mr. Glayre, of the executive government, he said to me: '*Vous voulez mécaniser l'éducation.*' At that time I understood very little French: I thought he meant to say, that my intention was to bring the different means of education and instruction into regular courses, adapted to the nature and progressive development of the human faculties; and taking the term '*mécaniser*' in this sense, he certainly was quite right. I imagined at the time, the word which he had put into my mouth, was expressive of the very essence both of my purpose and my means. I might have gone on for a good while longer without hitting upon an adequate term, because I was not in the habit of giving a clear account to myself of what I met with in my progress. On the contrary, I abandoned myself entirely to instinctive feelings, which gave me no clearness, but much life; much practical security, but no theoretical knowledge. It was not in my power to do otherwise. For these last thirty years I have read no book, nor have I been able to read any; I had no language left for abstract notions; in my mind there was nothing but living truths, brought to my consciousness in an intuitive manner, in the course of my experience; but I was no more able to analyze those truths, than to bring

* That is to say, a series of elementary geometrical figures, by the composition of which, any given form might be produced in a similar manner, as the words in language by the composition of the letters of that series of sounds, commonly called the alphabet. B.

to my recollection the details of the observations by which I had been led to their discovery.

"Perfect unconsciousness, as to the principles on which my proceedings rested, was, at that time, the leading feature of my experiments. In explaining to the children the nature of different objects, I confined myself to such as were within reach of their own senses, and this led me to pursue the various branches of tuition to their very first elements. On the other hand, I endeavoured to investigate the exact time of life when instruction begins, and I soon arrived at the conviction, that the first hour of instruction is the hour of birth: the first tutor is nature; and her tuition begins from the moment, when the child's senses are opened to the impressions of the surrounding world: the feeling of novelty by which life first surprises the infant, is in itself nothing else than the first waking up of the capability of receiving those impressions; it is the arousing of all the germs of physical powers, whose growth is completed, and whose whole energy and sole tendency is now directed towards their expansion and cultivation; the animal is entirely formed, and something above the animal is awakened in it, which, while it clearly testifies the destination of the new-born being for a human existence, gives him at the same time a positive impulse towards the attainment of that purpose.

"Whatever, therefore, man may attempt to do by his tuition, he can, at best, do no more than assist the child's nature in the effort which it makes for its own development; and to do this, so that the impressions made upon the child may always be commensurate to, and in harmony with, the measure and character of the powers already unfolded in him, is the great secret of education. The perceptions to which the child is to be led by his instruction, must, therefore, necessarily be subjected to a certain order of succession, the beginning of which must be adapted to the very first unfolding of the child's powers, and its progress kept exactly parallel with that of the child's own development. To discover those successions throughout the whole range of human knowledge, but especially in those essentials, in which the development of the human mind takes its beginning,—this I soon perceived to be the simplest and the only way, ever to establish really instructive school-books, such as would correspond to the natural constitution of the mind, and satisfy its wants. I saw, moreover, that in the composition of such books, it must be of the highest importance to keep the different parts of instruction distinct from one another, and to introduce them in a manner adapted to the natural progress of the child's mind: for it is only by determining with the greatest accuracy, what is calculated for every age and every stage of development, that we shall avoid either withholding any thing of which the child is capable, or burdening and confounding him with things which he cannot yet grasp.

"This much I saw clearly, that the child may be brought to a high degree of knowledge, both of things, and of language, before it would be

rational to teach him reading, or even spelling; and seeing this, I felt the necessity of leading children from their earliest infancy to a rational view of all things, by presenting them in a manner calculated to draw forth the action of the different faculties upon every object. But I saw likewise, how difficult it is, in the present state of things, to find men, who without the help of art, are capable of leading children in this manner; and I was deeply impressed with the want of 'intuitive elementary books,' by the aid of which, long before the spelling-book comes on, children might be made acquainted with those objects, of which they are to learn the names, either by their being exhibited to them in reality, or represented in good models and drawings.

"Experience entirely confirmed this notion. A mother, full of interest for the education of her child, intrusted me with the instruction of her little boy, then hardly three years of age. I saw him, for some time, an hour every day; and with him, too, I was merely, as it were, feeling the pulse of the method: I tried to convert letters, figures, and whatever else was at hand, into means of instruction; that is to say, I led him to form, concerning every object, distinct notions, and to express these notions clearly in language. I made him state positively, what he knew of every object; its colour, its parts, its position, its shape, its number. Very soon I was obliged to lay aside the alphabet, that first torment of youth; he felt no interest in those dead signs; he would have nothing but things, or pictures of things; and, in a short time, he was enabled to express himself distinctly respecting any objects within the sphere of his knowledge. He gathered general information from the street, from the garden, and from the house; and, upon the basis of clear and self-acquired notions, he soon learned to pronounce correctly even the most difficult names of plants and animals. Nay, by comparing objects entirely unknown to him, with such as he was acquainted with, he was able to form of them a definite idea; and though I am aware, that this attempt led to many deviations from the straight course, by directing his attention to foreign and distant objects, at the expense of realities, present before his eyes, yet it threw a good deal of light upon the means of enlivening the child's faculties, and inducing him to independent exertion for the preservation and increase of his powers.

"But independently of this mistake, the experiment I made with this boy could not be decisive as to the earliest beginning of instruction; for this reason, that he had already been allowed to pass in comparative inactivity the three first years of his life; a period during which, I am convinced, nature urges upon the child's consciousness an immense variety of objects. All that is wanted is, that we should watch the operations of the mind, and follow them by connecting language with every idea of which the child has become conscious; that he may acquire the highest possible degree of clearness, and be enabled, on one hand, to connect the elements of art and science with the teachings of nature, and, on the other hand, to make the

teachings of nature the key to whatever of art and science it may be expedient to teach him hereafter. Both the power and the experience of children are considerably advanced even at that age; but our schools, perfectly regardless as they are of all that passes in children's minds, are, in fact, nothing else than well-contrived machines for the suffocation of life, in which all that has been developed under the guiding hand of nature, is marred or destroyed."

We do not wish to follow Pestalozzi through a Philippic, which is here added, against the artificial systems of education, and against the mischief they produce by undoing the "work of nature;" but we would rather employ our space in offering some explanations on a point which it is absolutely necessary to clear up, in order to avoid a very essential misunderstanding which might otherwise arise in the minds of some of our readers. It will be found throughout the writings of Pestalozzi, and many others of his countrymen, that a great stress is laid upon what is by them termed "nature." This term occurs in a variety of phrases, such as, "the voice of nature," "the goodness of nature," "the law of human nature," "the pure impulse of nature," and others of the like description. Now it so happens that the term "nature," in this acceptation, clashes most unfortunately with the meaning attached to it, with reference to the condition of the human soul, in the theological language of English divines; and as there is no point in which men are commonly less inclined, than in religious matters, to abstract from their habitual terms and inculcated notions, and to weigh the terms of a stranger with his own balance, a most unpropitious inference has been drawn, respecting the religious principles of those men, in whose writings such expressions are found. To remedy, if possible, the consequences of this misapprehension; and, at all events, to prevent it from militating against whatever good may be effected by the publication of the present volume; we think it right to state here the result of our observation on this point, which, as it is founded upon personal intercourse with both nations, and a familiar acquaintance with their characteristic modes of thought and

expression, may, perhaps, have some weight with our readers in counterbalancing the effects of long-cherished prejudice.

"Nature," in the metaphysical language of German writers, means, in the first instance, "that which God has made, as he has made it." Hence it signifies the whole comprehension of created things, material and immaterial; and, in this sense, the production of divine power and wisdom, as well as the object of their constant operation. It signifies further, the essence and constitution of any being, individually, such as it was established by the will of God; thus, the term "human nature" is to be generally understood of the organic structure, composed of soul and body, which is called man, in its original state, as it came from the hand of the Creator; whereas its present degraded condition, and corrupt tendency, would be called the *unnature* of man rather than his nature. In a sense analogous to the last mentioned, the term "Divine nature" is frequently used to denote the essential character of the Deity, as fixed by the immutable and self-imposed necessity of his own perfection. Even so far as this goes, it is clear that the German language attaches to the term "nature" a more extensive and more primitive meaning than the English. But there is still another acceptance, in which it is used by German writers, and which bears more directly upon our present subject. By "nature" they designate not only that which the power of God has produced, but also that power itself. "Nature" is to them, in every creature, He by whom it was made, through whom, and in whom it is, and moves, and has its being. In this sense "human nature," or rather the "man-nature," if it were literally translated, frequently signifies that universal power of life, as operating and manifesting itself in man; or in Scripture language, him, in whom was life, that life which was the light of man. With this explanation of the term it can appear neither strange, nor heterodox, that "the voice of nature," "the goodness of human nature," "the law of human nature," "the pure impulse of nature," should incessantly be appealed to as the great source of healing, by

which the ills of our *unnature*, our corrupted and degraded condition, are to be cured.

"But," will objectors here ask, "if the German writers mean all this, by the term 'nature,' why do they not express it in the direct terms of Scripture? why make use of a term which seems to involve so much vagueness and uncertainty and which seems calculated to throw darkness rather than light on the subject?"

This question might fairly be retorted, by asking: "Are there in the English language, nay in the language of the 'religious world' in England, no terms of merely human sanction, for which Scripture might furnish more adequate expressions? Is there no vagueness, no room for doubt or equivocation left?"

But we do not wish to evade the question; we speak not in vindication, but merely in explanation. We are perfectly willing to admit, that the term "nature," as used by the German writers, involves a good deal of vagueness, that it is more the expression of a mysterious something, than of an idea, or of a being, clearly apprehended; and that it has the disadvantage of leading the mind to rest satisfied with an obscure notion which has the appearance, rather than the reality, of knowledge. Nay, we are prepared to go farther in our admission, by stating it as our belief, that most of the German writers who have employed the term, if they were pushed to a point on the subject, would find themselves involved in some difficulties and inconsistencies arising out of the vague use of a word of so comprehensive a meaning, and of such a variety of acceptations.

It is but just and fair, on the other hand, to state that this vagueness and uncertainty would by no means be so striking and obnoxious to a German as to an English ear; owing to a characteristic difference in the religious development of the two nations. There does not exist in Germany, nor in fact in any other country of the world, that acuteness of distinction and precision of language, in doctrinal matters, which

we find in England ; sometimes to that degree of hair-splitting refinement which belongs more to the scribe and the sophist, than to the Christian without guile. In Germany, on the contrary, there is, under an outward carelessness about forms, and a general indifference concerning doctrinal distinctions, an internal regard for the spirit of religion, a feeling of piety, of sincerity, and uprightness, which is less common, and less intense, in other nations. We are far from advocating the indifference about doctrine of the Germans ; nor do we quarrel with the higher interest evinced for it in this country. As regards principles, we do think, that too much stress cannot be laid upon doctrine ; and, abstracting from the tenets of sectarians and ultra-sectarians, we think the advanced state of doctrinal development in England so far desirable that, if it were accompanied with a proportionate increase of religious feeling, of internal piety, of humility, and charity, we should give to this nation the decided preference over all others in matters of religion. On the other hand, while we believe that the Germans,—to become progressive in religion, from being stationary, which they have been, or nearly so, since the Reformation,—must turn their attention to doctrine much more than they have done, we cannot help regretting that justice is not done to their religious *feelings* by those who have taken upon themselves, as cosmopolite inquisitors, to investigate “the state of faith” in Germany.

Having thus given our view of this matter, we have only to add, as regards the point more immediately in question, viz. the use of the term “nature” in Pestalozzi’s writings, that, as we have no express authority for representing him as having held this or that particular doctrine, we must be contented to let the reader take his own choice of three explanations, one of which must necessarily be correct and the two other false.

That which is termed “nature,” and appealed to as a power of life, as a good and holy power, by Pestalozzi, is ascribed by him to all men, universally, and pointed out as the great lever of education ; as the source of knowledge and

virtue, dwelling in the child. This, unless the power spoken of be a divine power, distinct from "human nature," in the English sense of the word, would militate against the fact, expressly averred by Scripture, and no where denied, on the contrary frequently referred to, by Pestalozzi, that man is in a fallen condition, whereby his nature, again in the English acceptation, has become totally corrupt. And yet it is equally true that, in many instances, Pestalozzi himself speaks of the goodness of man in so unqualified a manner, that no other explanation seems to suggest itself, but that of a vague use of terms, without sufficient distinction, which is warranted by other apparent contradictions in his writings. Be this as it may, if Pestalozzi had been driven to a point on this subject, he would either have been obliged to set himself in direct opposition to Scripture, by asserting a source of goodness and truth in the actual creaturely nature of man, thereby substituting the English to the German meaning of the word ; or, if he remained consistent to his belief in Revelation, and especially in the doctrine of the fall, he would then be obliged to assert the indwelling of the divine nature in human nature, the "shining of the light in darkness," in explicit terms. But with this he would get into another difficulty; for he would be told by a large portion of, at least the English, religious world, that there is no such thing as an universal indwelling of "the word" in human nature, but that it takes place only in the regenerate, the predestined, the elect. From this difficulty he could extricate himself in no other way than either by acquiescing in the exclusive doctrine, in which case he would have to disavow every word of what he has so universally stated, concerning the "pure impulses of nature;" or, on the other hand, by taking his stand with us on the express declaration of St. John, that he that was made flesh in the person of Jesus Christ, is, "the true light that lighteth every man that cometh into the world," or, as it ought to be translated, more explicitly, "the true light that lighteth every man *as he* cometh* into the world."

* Πάντα ἀνθρώπων ἐρχόμενον πρὸς τὸν ἐρχόμενον.

Our readers have now the case fairly before them, and may choose between these three propositions :

1. Pestalozzi rejects the authority of Scripture.
2. Pestalozzi gives up the fundamental principle of his views on education.
3. Pestalozzi believes in the universal presence of the divine life in the soul of man, from the moment of birth.

As for ourselves, being obliged to make our choice, in the extracts we give we shall adhere to the view which we have ever entertained on this subject, and for which we refer those among our readers who wish for a more full illustration of this important doctrine, to our Lectures, published under the title "Christian Education," p. 61—72. Meanwhile we beg them to bear in mind that we ourselves do, and desire that they likewise will, associate with the terms "nature," "the voice of nature," and others which inevitably occur in the present extracts, not any part of the creaturely nature of man, but that divine power of "light and life," which the apostle has pointed out as universally indwelling in man for the purpose of his restoration. In this sense we can fully join in Pestalozzi's remark, that "it takes a long time for the blindness and folly of mankind, to succeed in suffocating the voice of nature in the child's heart and mind !

But it is time that we should let him speak again for himself. He continues thus to argue in support of the influence of "nature" upon education.

"God himself has deposited in our bosom a counterpoise against our raving self-destruction. The life of surrounding nature, and the truth of which it is the expression, forms a support to this counterpoise, and contributes to the accomplishment of the everlasting will of our Maker, who desired not that the sanctuary of our nature should be concealed in weakness and unconsciousness, but that all the children of men should have an infallible standard of right and truth to guide them, until they reach the point when, being aware of the high calling of their immortal nature, they cannot forfeit it, except through their own guilt, by losing themselves, in full consciousness of that guilt, in the labyrinths of error, and amidst the precipices of vice. But the great majority of the men of this time hardly know what God has done for

them, nor do they allow any weight to that powerful influence which nature exercises upon our development ; every trifle, on the contrary, by which they wrest and pervert the grand course of nature, they swell out so as to lead one to think that mankind are indebted to their own art for every thing, and to nature for nothing. And yet it is nature alone that does us any good ; it is she alone that leads us incorruptibly and infallibly unto wisdom and truth.

"Of this my experiment furnished me with striking proofs. The more I pursued the track of nature, the more I strove to connect my endeavours with her workings, and exerted myself to keep pace with her, the more did I perceive the immense progress of her course ; and, to my astonishment, I found the child endowed with sufficient power to follow her. The only weakness I met with, was the inability of turning to account what was already in existence ; I found myself guilty of the weakness of presumption, in making myself the moving power, instead of merely collecting materials for an internal power of action ; or rather, in attempting to cram that into the child, which is only to be drawn forth out of him, as it is primitively deposited in him, and requires nothing but a stimulus of life to give the impulse for its development. I now thought thrice before I presumed to imagine any thing too difficult for the children ; and ten times before I ventured to say : 'It is beyond them.' . . .

"By degrees certain fundamental points established themselves in my mind, and guided me in the further pursuit of my object. I became every day more convinced that reasoning with children, at an early age, does no good whatever ; but that the only way to a real development of their mental faculties is :

"1. To enlarge gradually the sphere of their intuition ; i. e. to increase the number of objects falling under their own immediate perception.

"2. To impress upon them those perceptions, of which they have become conscious, with certainty, clearness, and precision.

"3. To impart to them a comprehensive knowledge of language, for the expression of whatever has become, or is becoming, an object of their consciousness, in consequence either of the spontaneous impulse of their own nature, or of the assistance of tuition.

"As these three leading points were fixing themselves in my mind, I began to understand more clearly, likewise, the means of accomplishing my task and I found :

"1. That intuitive* books for elementary instruction are an indispensable requisite.

* It is impossible to avoid the occasional appearance of this term, in its native garb, strictly interwoven as it is with the whole train of Pestalozzi's ideas. It is easily enough understood, when we speak of intuitive knowledge : but when intuitive methods, intuitive books, &c. are spoken of, there seems to be some reason to doubt the propriety of such an application. And yet it would

"2. That the method of elucidation traced out in these books must be distinguished by clearness and precision.

"3. That upon the ground of the knowledge of things, gained in the order and manner prescribed by these books, the children must be led to a knowledge of names or words; and exercised in the use of them, so that they may acquire ease and propriety of expression, even before the period when they are taught spelling."

be impossible, without a most tedious circumlocution, to convey Pestalozzi's meaning in many cases in which he uses it in this manner. His leading idea was, that the child should be taught, as much as possible, by his own examination of things; his knowledge was not to be founded on hear-say evidence, but on his own ocular inspection. This he called, very appropriately, intuitive knowledge; the method by which the teacher leads his pupil to acquire such knowledge was called the intuitive method; and the manuals, by which the teacher was to be guided in the course of his instruction, were termed intuitive books. At a subsequent period, when Pestalozzi pursued the subject of education to a more advanced age, and when he penetrated more deeply into the mysteries of human nature, he spoke, likewise, of mental, moral, and religious intuition; that is to say, of a perception of the understanding, the moral feelings, and the religious faculties of man, which is distinct from all information derived from outward sources, inasmuch as it rests altogether on internal consciousness. The ideas conveyed, usually, by the terms "light of reason, light of conscience, and inward divine light," bear a faint analogy to what Pestalozzi meant to express, when speaking of different sorts of internal, or spiritual intuition. This latter acceptation of the terms "intuitive" and "intuition" belongs, however, as has been stated, to a later period; though some traces of it occur already in the present work. After this explanation, which may serve as a sort of passport to two "hard words," we hope that the promise of using them as rarely as possible will ensure us the indulgence of our readers in those cases, in which we cannot avoid them without a lengthy paraphrase.

CHAPTER XVIII.

Pestalozzi's first Assistants.—Kruesi's early Career— His Views of the Method.

HAVING seen in the preceding Chapter, in what light Pestalozzi himself viewed the subject of education at this period of his experiment at Burgdorf, we shall now take the opportunity of making ourselves acquainted with those men who were the first to share his labours and privations. They were all three individuals of humble station in life, and, with the exception of Tobler—who had for some time been feeding upon the crumbs which fall from the table of science,—almost totally illiterate. This, however, so far from incapacitating them, on the contrary rendered them the more fit for becoming Pestalozzi's fellow-teachers, for this simple reason, that it rendered them more inclined to become his fellow-learners. Among the numbers of literary men from all countries, who, at a subsequent period, repaired to Pestalozzi's establishment, experience has in too many instances attested the truth of the remark, that the learning imparted by the forms and systems of "the schools" proves an almost insurmountable obstacle to the understanding of Pestalozzi's principles and his method. And how should it be otherwise? The scholar's very frame of mind, the lack of true humility which it generally carries along with it, will prevent him from descending so low, as to look up to the elements of knowledge as a source of information for himself. The utmost he can bring himself to, is to give a scrutinising look at the new manner in which those elements are presented, either because he wishes to form an opinion on the

subject, or, if his circumstances compel him to yield up his dignity so far as to get his bread by the inculcation of those elements, because he intends condescendingly to take a scrap here and there with him, to be "grafted in" upon his own system. But the scraps are nothing; and the principles, which are every thing, no scholar ever reached unless he first threw his artificial wisdom overboard. Unless the scholar be converted and become as a little child, he cannot enter into Pestalozzi's school, because education and instruction on a truly divine basis is foolishness with them which have "the wisdom of the world." In this, as in many other points, Pestalozzian education resembles the Gospel, upon the power and life of which it is essentially founded; and accordingly, like the Gospel, it found its first disciples not among them that are "wise in their own conceits," but among the ignorant and lowly. However valuable, therefore, may have been the services rendered subsequently to the cause of Pestalozzi, by a few scholars who consented in his school to become ignorant, that they might be made wise; and however great the advantages which these men themselves derived from the knowledge previously acquired, by turning it to account, as a raw material, for the practical purposes of the method; still it must be recognised as a most providential arrangement, that Pestalozzi was not at the onset of his experiment embarrassed by the assistance of men who "knew something," but that he was surrounded by those, who, conscious of their ignorance, were ready to be taught with him by "the mouth of the babes," whom they had undertaken to teach.

The following is Pestalozzi's narrative of the previous career of Kruesi:

"Kruesi, the first of the three, whose acquaintance I made, had past his youth in a different kind of employment, whence he had acquired that variety of practical abilities, which in the lower stations of life so frequently gives the first impulse to a higher degree of development, and by which men, who have been in this school from their earliest childhood, are enabled to become more generally and extensively useful.

"In his twelfth and thirteenth years, his father, who carried on a petty traffic, used to send him, with a small capital amounting to about six or eight pounds sterling, for the purchase of different kinds of merchandise, to a distance of ten to twelve miles; to this employment he joined the trade of a sort of public messenger, carrying letters, and executing various orders for the people of his village. When he grew older, he filled up his leisure-days by weaving, or other daily labour. At the age of eighteen he undertook the office of village-schoolmaster at Gais,* his native place, without any kind of preparation. He says himself, that he did not know the signs of punctuation, even by name; ulterior knowledge was out of the question, because he never had had any other instruction than that of a common Swiss village-school, which was entirely confined to reading, writing copies, and learning by rote the Catechism, &c.: but he was fond of children, and he entertained the hope, that by means of this post he should be enabled to gain for himself that knowledge and education, the want of which he had felt very oppressively, even in his expeditions as village messenger: for, being commissioned to buy a variety of articles of artificial preparation, and of strange names which he had never heard in his life before, such as ammoniac, borax, and so on; and being at the same time placed in a responsible situation, in which he had to remember every, even the most trifling order, and to account for every farthing; he could not but be struck with the idea, what an advantage it would be, if every child could, by school instruction, be brought to that degree of ability in reading, writing, ciphering, in all sorts of mental exercises, and in the very art of speaking itself, which he felt he ought to be possessed of, even for the discharge of his miserable post as village messenger.

"Even so soon as the first week, the number of his scholars exceeded one hundred. But he was by no means competent to the task he had undertaken, for he knew not how to give proper employment to all these children, what to teach them, or by what means to keep them in order. All the notions he had hitherto acquired about keeping school, were confined to the 'setting' of spelling and reading lessons, to be 'got by heart;' to the 'saying' of the same lessons by turns, followed by the chastisement of the rod, if the task was not properly got. From the experience of his own boyhood, however, he knew likewise, that with this mode of "keeping school," the greater part of the children are idling away most of the school-hours, and by idleness are led to a variety of follies and immoralities; that in this manner the time which is most available for education, is allowed to

* A village, or, rather, a cluster of hamlets on the highest and most airy part of the canton Appenzell, celebrated as a place of resort for persons of consumptive habits, on account of its excellent milk, of which, however, the patients take only the whey.

pass by without any benefit to them, and that the few advantages which they may derive from their instruction are not even sufficient to counterbalance the ill effects which must necessarily result from such 'school-keeping.'

"Pastor Schiess, the minister of the place, who was very actively combating the old routine, assisted him in his school, during the first eight weeks. From the very beginning they divided the scholars into three classes. With this division, and the use of some spelling and reading books on an improved plan, which had recently been introduced in the school, they succeeded in making a number of children spell and read together, and thus keeping them generally occupied to a far greater extent than had been possible before.

"Mr. Schiess also supplied him with such books as he required for his own information, and with a good copy, which he wrote off hundreds of times, in order to form his hand. By these means he was soon enabled to satisfy the principal claims on the part of the parents; but he himself was not satisfied: he was not contented to teach his pupils reading and writing; he wanted to cultivate their minds.

"The new reading-book, that had been introduced by the minister, contained religious truths in short paragraphs, and in biblical sentences: various facts of physical science, natural history, and geography, were concisely stated, and information was given on interesting points of the political constitution of the country. Kruesi observed his pastor, when he read it with the children, putting some questions at the end of each paragraph, in order to see whether they actually understood what they had read. Kruesi tried to do the same thing, and succeeded in making most of the scholars perfectly familiar with the contents of the reading-book. But this was only because, like good old Huebner,* he adapted his questions to the answers which were to be found, ready made, in the book, and because he neither demanded nor expected any other answer, except literally those which the book had put into the children's mouths, long before any question was devised to elicit them. The true reason of his success was, that there was a complete absence of all mental exercise in this his system of catechization. It is, however, to be observed, that that mode of instruction which originally was termed catechization, is, no more than Kruesi's system of questioning, an exercise of the mind; it is a mere analysis of words, relieving the child, as far as words are concerned, from the confusion of a whole sentence, the different parts of which are presented to the mind separately and distinctly; it can, therefore, only have merit when used as a preparatory step to the

* "Good old Huebner" is the author of a Scripture History in German, to which are attached sets of "useful questions and answers," such as our readers may find in many a "good new" manual of our "enlightened and improved systems."

further exercise of clearing up the ideas represented by those words. This latter exercise, commonly termed Socratic instruction, has only of late been mixed up with the business of catechising, which was originally confined to religious subjects exclusively.

"The children thus catechised by Kruesi were held up by the minister as examples to his elder catechumens. Afterwards it was required of Kruesi, that he should, after the fashion of those times, combine this narrow analysis of words, called catechising, with the Socratic manner, which takes up the subject in a higher sense. But an uncultivated and superficial mind does not dive into those depths from which Socrates derived spirit and truth; and it was, therefore, quite natural that, in his new system of questioning, Kruesi should not succeed. He had no internal basis for his questions, nor had the children any for their answers. They had no language for things which they knew not, and no books which furnished them with a well-framed answer to every question, whether they understood it or not.

"Kruesi, however, had not then that clear insight into the nature of those two methods which might have enabled him to apprehend their difference. He had not yet learned, that mere catechising, especially if it runs upon abstract terms, leads to no more than the art of separating words and handling analytical forms; but that, in itself, it is nothing but a parrot-like repetition of sounds without understanding; nor was he aware, that Socratic questions are not to be addressed to children, such as his pupils at Gais, who were equally destitute of the internal fund, that is, of real knowledge,—and of the external means, that is, of language wherein to convey that knowledge. The failure of his attempt rendered him unjust to himself; he thought the fault lay entirely with himself, imagining that every good school-master must be able, by his questions, to elicit from the children correct and precise answers on all manner of moral and religious subjects."

We have already noticed, in the fourth Chapter, the circumstances which brought Kruesi to Burgdorf, where he remained for some time in the employment of Fisher, and through him became acquainted with Pestalozzi, whose views he readily embraced.

"The more he laboured with Fisher, the higher seemed to him the mountain which lay in his way, and the less did he feel in himself of that power, which he saw would be necessary to reach its summit. However, during the very first days after his arrival, Kruesi was present at some of the conversations I had with Fisher on the subject of popular education, when I expressed my decided disapprobation of the Socratic manner of our young candidates, adding, that it was not my wish to bring children to a premature judgment, on any subject, but that my endeavour was rather to check their judgment, until the children should have had an opportunity of viewing the

subject from all sides, and under a variety of circumstances, and until they should be perfectly familiar with the words expressive of its nature and its qualities. Kruesi was struck with these remarks; he felt it was there that his own deficiency lay; he found that he himself stood in need of that same elementary instruction which I designed for my children.

"Fisher exerted himself with all his power to introduce Kruesi to different departments of science, that he might be able afterwards to teach them. But Kruesi felt every day more, that the way of books was not the one for him to make progress in, because on every subject he was destitute of that preliminary knowledge of things and their names, which, to a greater or lesser extent, books presuppose. On the other hand, he witnessed the effect which I produced upon my children, by leading them back to the first elements of human knowledge, and by dwelling on these elements with unwearied patience; and the result of his observation tended to confirm him in the notions he had formed concerning the causes of his own inability. Thus by degrees his whole view of instruction underwent a great change, and he began in his own mind to place it on a different foundation. He now perceived clearly the tendency of my experiments, which was to develop the internal power of the child rather than to produce those results which, nevertheless, were produced as the necessary consequences of my proceedings: and seeing the application of this principle to the development of different faculties by different branches of instruction, he came to the conviction, that the effect of my method was to lay in the child a foundation of knowledge and further progress, such as it would be impossible to obtain by any other."

Fisher's death accelerated the union between Pestalozzi and Kruesi, which had been contemplated by the latter almost from the first moment of his acquaintance with his paternal friend. The following account of the view which he took of Pestalozzi's plan, after he had for some time enjoyed the advantage of practical co-operation with him, is, notwithstanding its great deficiencies, an interesting testimony in favor of the experiment, in the course of which these ideas urged themselves upon an evidently unprejudiced mind.

"1. A well-arranged nomenclature, indelibly impressed upon the mind,* is to serve as a general foundation, on the ground of which both teacher and children may, subsequently, develop clear and distinct ideas on every branch

* Let it not be forgotten that no nomenclature, of any extent, can ever be "indelibly impressed" upon the mind, unless upon the ground of a real knowledge of the things, properties, and states, of which it furnishes the names.

of knowledge, by a gradual but well-secured progress from the first elements.

"2. Exercises concerning lines, angles, curves, &c. (such as I began to introduce at that time,) are calculated to give children such a distinctness and precision in the perception of objects, as will enable them to form a clear notion of whatever falls within the sphere of their observation.

"3. The mode of beginning arithmetical instruction by means of real objects, or at least strokes and dots, representing the different numbers, gives great precision and certainty in the elements, and secures the farther progress of the child against error and confusion.

"4. The sentences, descriptive of the acts of walking, standing, lying, sitting, &c. which I gave the children to learn, led Kruesi to perceive the connexion between the beginnings of my instruction, and the purpose at which I was aiming, viz. to produce a general clearness in the mind on all subjects. He soon felt, that if children are made to describe in this manner things which are so clear to them that experience cannot render them any clearer, they must thereby be checked in the presumption of describing things of which they have no knowledge; and, at the same time, they must acquire the power of describing whatever they do know, to a degree which will enable them to give consistent, definite, concise, and comprehensive descriptions of whatever falls within reach of their observation.

"5. A few words which I dropped on one occasion, on the tendency of my method to abate prejudice, struck him very forcibly. Speaking of the manifold exertions, and the tedious arguments, by which prejudices are generally combated, I observed, that these means had about as much power to counteract them as the ringing of bells had to disperse thunderstorms,* but that the only true safeguard against the influences of prejudice was a conviction of the truth, founded upon self-observation. For truth, so acquired, is in its very nature an impediment to the reception of prejudice and error in the mind; so, much so that if men thus taught are made acquainted with the existence of prevailing false notions by the never-ceasing cant of society, there is not in their minds any ground for that ignoble seed to rest on, or to grow up in, and the effect must therefore be very different from what it proves to be in the common-place men of our age, who have both truth and error thrust into their imagination, not by intuition and observation, but by the mere charm of words, as it were by a magic lantern.

"When reflecting upon these remarks, he came to the conviction, that the silence with which, in my plan of instruction, errors and prejudice were passed over, was likely to prove more effectual in counteracting them than

* It is a superstitious practice, kept up to this day in many parts of Switzerland and Germany, to ring the church bells at the approach of a thunderstorm, under an impression that the sacred toll will effectually remove the danger.

all the endless verbiage which he had hitherto seen employed for that purpose.

"6. In consequence of our gathering plants, during the summer, and of the conversations to which this gave rise, he was brought to the conviction that the whole round of knowledge, to the acquisition of which our senses are instrumental, depended on an attentive observation of nature, and on a careful collection and preservation of whatever she presents to our thirst of knowledge.

"These were the views, on the ground of which he conceived the possibility of establishing such a method of instruction as he felt was most needed, viz. one which would cause all the branches of knowledge to bear upon one another, with such coherence and consistency, as would require, on the part of the master, nothing but a knowledge of the mode of applying it, and, with that knowledge, would enable him to obtain, not only for his children, but even for himself, all that is considered to be the object of instruction. That is to say, he saw, that with this method positive learning might be dispensed with, and that nothing was wanted but sound common sense, and practicable ability in teaching, in order not only to lead the minds of children to the acquirement of solid information, but likewise to bring parents and teachers to a satisfactory degree of independence and unfettered mental activity concerning those branches of knowledge, in which they would submit themselves to the course prescribed by the method.

"During his six years' experience, as village-schoolmaster, a considerable number of children, of all ages, had passed through his hands; but with all the pains he took, he had never seen the faculties of the children developed to the degree to which they were carried by my plan; nor had he ever witnessed in them such an extent and solidity of knowledge, precision of thought, and independence of feeling.

"He inquired into the causes of the difference between his school and mine.

"He found, in the first instance, that even at the earliest period of instruction, a certain feeling of energy was not so much produced,—for it exists in every mind not enervated by artificial treatment, as an evidence of innate power,—as kept alive in consequence of my beginning at the very easiest task, and exercising it to a point of practical perfection before I proceeded; which, again, was not done in an incoherent manner, but by a gradual and almost insensible addition to what the child had already acquired.

"With this method, he used to say, you need not push on children, you have only to lead them. Formerly, whatever he wanted to teach, he ~~was~~ obliged to introduce by some such phrase as this: 'Pray, do think, if you please!' 'Can't you remember, now?'

"It could not be otherwise. If, for instance, in arithmetic, he asked: 'How many times seven are there in sixty-three?' the child had no palpable basis, on which to rest his inquiry for the answer, and was, therefore,

unable to solve the question, otherwise than by a wearisome process of recollection; but, according to my method, he has nine times seven objects before him, which he has learned to count as nine sevens; the answer to the above question is therefore, with him, not a matter of memory; for although the question, perhaps, may be put to him for the first time, yet he knew long ago, by intuition and practice, that in sixty-three there are nine sevens: and the same is the case in all the other branches of my method.

"To adduce another instance: he had in vain endeavoured to accustom his children to write the initials of substantives with capital letters; * the rule by which they were to go, was constantly forgotten. Now, on the contrary, the same children, having read through some pages of a vocabulary constructed on my plan, conceived, of themselves, the idea of continuing that vocabulary out of their own resources, and by writing long lists of substantives, proved that they had a clear notion of the distinctive character of that sort of words. The remark which Kruesi made, that with this method children do not want to be pushed on, is so correct, that it may be considered as a proof of something imperfect in the mode of instruction, if the child still requires any kind of stimulus to thought; and the method can be considered as perfect only, where every exercise proposed to the child is so immediately the result of what he has learned before, that it requires no other exertion on his part, than the application of what he already knows.

"Kruesi farther observed, that the detached words and pictures, which I used to lay before the children in teaching them to read, produced upon their minds a very different effect from that of the compound phrases commonly used in schools. He, therefore, now began to examine these phrases themselves somewhat more closely, and he found that it was utterly impossible for children to form any distinct notions of the different words of which they are composed; because they do not consist of simple elements before known to the children, and put together in an obvious connexion, but that they are unintelligible combinations of objects mostly or entirely unknown. To employ children's minds in the unravelling of such phrases, is contrary to nature; it exceeds their powers, and leads to delusion, inasmuch as it introduces them to trains of ideas which are perfectly foreign to them, as regards not only the nature of the objects to which they refer, but likewise the artificial language in which they are clothed, and of which the children have not even acquired the bare elements. Kruesi saw that I was no advocate for this hodge-podge of pedantry; but that I did with my children, as nature does with savages, first bringing an image

* In the German language, every substantive, and every word used as a substantive, is written, at the beginning, with a capital letter; and as the Germans do not excel the English in the art of teaching grammar in a popular and intelligible manner, of course great difficulties arise in the application of that rule.

before their eyes, and then seeking a word to express the perception to which it gives rise. He saw that from so simple an acquaintance with the object, no conclusions, no inferences followed; that there was no doctrine, no point of opinion inculcated, nothing that would prematurely excite them to decide between truth and error; it was a mere matter of intuition, a real basis for conclusions and inferences to be drawn hereafter; a guide to future discoveries, which, as well as their past experience, they might associate with the substantial knowledge thus acquired.

“He entered more and more into the spirit of my method; he perceived that every thing depended on reducing the different branches of knowledge to their very simplest elements, and proceeding from them in an uninterrupted progress, by small and gradual additions. He became every day better fitted to second me in the experiments which I myself made on the ground of the above principles, and, with his assistance, I completed, in a short time, a spelling-book, and a course of arithmetic, upon my own plan.”

CHAPTER XIX.

Tobler's Account of himself—His View of Pestalozzi's Experiment.

NEXT in order follows an account of Tobler, who had, like Kruesi, previously taken upon himself the office of a teacher, and by the ill success of his labours had been prepared for the reception of Pestalozzi's ideas. There was, however, between the two men this difference, that while Kruesi had striven to emerge from a state of positive ignorance, and to emancipate himself from the shackles of a narrow system in his village school, Tobler had been combating the confusion arising from the accumulation of superficial knowledge; bewildered by the boundless prospect of "*omne scibile*," and conscious that in his indefinite rambles through the different provinces of learning he had lost both the straight road and a firm footing, he was looking out for a guide at whose hand he might pursue his course with more security, and hope of success.

But although Tobler was in literary and scientific acquirements much superior to Kruesi, yet he was far from being what is termed a regular scholar: his early education had been entirely neglected, and it was not until the age of twenty-two that he entered the career of learning. All his zeal and talent were, from that moment, devoted to the acquisition of that wisdom which is to be gathered from books; and so long as he remained a passive receptacle of their contents, he continued to enjoy that illusory satisfaction, which ignorance, clothed with the vain trappings of apparent knowledge, and girt with the armour of prejudice, never fails

to afford. But when he undertook, as private tutor in one of the first families in Basel, the care of several children, it fell as scales from his eyes. His experiments, his failures, and the views to which they gave rise, are detailed by himself in the following account, which is inserted in his own words in the course of Pestalozzi's letters.

"After having been, for six years, practically engaged in education, I found the result of my labours by no means answering my expectations. The energy of the children, their internal powers, did not increase according to the measure of my exertions, nor even in proportion to the extent of positive information which they had acquired: nor did the knowledge which I imparted to them appear to me to have a sufficiently strong hold upon their minds, or to be so well connected in its various parts, as I felt it ought to be.

"I made use of the best juvenile works that were to be had at that time. But these books contained words, of which the greater part were unintelligible to children, and ideas far beyond the sphere of their own experience; and consequently formed, altogether, so strong a contrast with the mode of thinking, feeling, and speaking, natural to their age, that it took endless time and trouble to explain all that they could not understand. But this process of explaining was in itself a tedious job, and, after all, it did no more towards advancing their true internal development, than is done towards dispelling darkness by introducing a few detached rays of light in a dark room, or in the obscurity of a dense, impenetrable mist. The reason of this was, that these books descended to the profoundest depths of human knowledge, or ascended above the clouds, nay, and to the uppermost heavens of eternal glory, before an opportunity was offered to the children of resting their feet on the solid ground of mother earth; on which, nevertheless, it is absolutely necessary that men should be allowed to stand, if they are to learn walking before flying; and for the latter, moreover, if it is to be flying indeed, their wings must have time to grow.

"An obscure foreboding of these truths in my mind, induced me, at an early period, to try to entertain my younger pupils with matters of immediate perception, and to clear up the ideas of the elder ones by Socratic conversations. The result of the former plan was, that the little ones acquired a variety of knowledge not generally to be met with at that age. I endeavoured to combine this mode of instruction with the methods I found in the most approved works; but whichever of those books I took in hand, they were all written in such a manner as to presuppose the very thing which the children were in a great measure to acquire by them, viz. the knowledge of language. The consequence was, that my Socratic conversations with the elder pupils led to no better result than all other explanations

of words by words, to which no real knowledge corresponds in the children's minds, and of which they have, consequently, no clear notion, as regards either each of them taken separately, or the connexion in which they are placed together. This was the case with my pupils, and, therefore, the explanation which they seemed to understand to-day, would a few days after be completely vanished from their minds, in a manner to me incomprehensible; and the more pains I took to make every thing plain to them, the less did they evince energy or desire to rescue things from that obscurity and confusion in which they naturally appear.

"With such experience daily before me, I felt myself invincibly impeded in my progress to the end which I had proposed to myself. I began to converse on the subject with as many schoolmasters, and others engaged or interested in education, as were accessible to me, in whatever direction: but I found, that although their libraries were well furnished with works on education, of which our age has been so productive, yet they saw themselves placed in the same difficulty with myself, and were no more successful with their pupils than I was with mine. Seeing this, I felt with what an increased weight these difficulties must oppress the masters of public schools, unless, indeed, they were rendered too callous for such a feeling by a professional spirit. I had a strong, but, unfortunately, not a clear impression of the defects of education in all its departments, and I exerted myself to the utmost to find a remedy. I made a determination to collect, partly from my own experience, and partly from works on the subject, all the means, methods, and contrivances, by which it seemed to me possible that the difficulties under which I laboured, might be removed at every stage of instruction. But I soon found that my life would not suffice for that purpose. Meanwhile I had already completed whole volumes of scraps and extracts, when Fisher, in several of his letters, drew my attention to the method of Pestalozzi. I soon began to suspect that he was about to reach the end I was aiming at, without my circuitous means; and that most of my difficulties arose out of the very nature of the plan which I followed, and which was far too scientific and systematic. I then began to see, that in the same manner the artificial methods, invented in our age, were the very sources of all the defects of modern education. On the contrary, I saw Pestalozzi equally free from my peculiar difficulties, and from the general failings, and I accounted for this by the fact, that he rejected all our ingenious contrivances, all our well-framed systems. Some of the means employed by him, that for instance of making children draw on slates, seemed to me so simple, that my only puzzle was, how I could have gone on so long without hitting upon them. I was struck with the idea that all his discoveries, seemed to be of the kind which might be termed "obvious;" they were none of them far-fetched. But what most attached me to his method, was his principle of re-educating mothers for that for which they are origi-

nally destined by nature;* for this principle I had long cherished and kept in view, in the course of my experiments.

"I was confirmed in these views by Kruesi, who, at his visit in Basel, gave, in the girl's school, practical specimens of Pestalozzi's mode of teaching spelling, reading, and arithmetic. Pastor Faesch, and Mr. De Brunn, who had in part organized the instruction and management of that institution, according to the loose hints which had as yet reached us on the Pestalozzian method, perceived immediately what a powerful impression was produced upon the children by their spelling and reading together in a stated measure of time. Kruesi had also brought with him some school materials for the instruction in writing and arithmetic, and some leaves of a vocabulary, which Pestalozzi intended to draw up as a first reading-book for children; which enabled us to see the bearing which Pestalozzi's method had upon the development of the different faculties of human nature. All this contributed to mature in me, very rapidly, the determination to join Pestalozzi, according to his wish.

"I went to Burgdorf, and the first impression of the experiment, in the state in which it then was, fully answered my expectations. I was astonished to see what a striking degree of energy the children generally evinced, and how simple, and yet manifold, were the means of development by which that energy was elicited. Pestalozzi took no notice whatever of all the existing systems and methods; the ideas which he presented to the minds of his pupils were all extremely simple; his means of instruction were distinctly subdivided, each part being calculated for a precise period in the progress of development; whatever was complicated and confused, he rejected; by a few words he conveyed much, and with little apparent exertion produced a powerful effect; he kept always close to the point then under consideration; some of his branches of instruction seemed like a new crea-

* Abstracting those fanciful creatures to whom fashion and amusement give their life, their value, and their reward, mothers may be divided into two classes, "the managers" and "the blue stockings:" the former have no time for any thing that is foreign to the great purpose of carrying on the animal economy of their households; the latter spoil whatever comes within their reach, by that extravagant blue tint for which they are celebrated, and with which, they can no more than the chimneysweeper with his black hands, help soiling every thing that comes under their fingers. Yet there remains between, or rather above the two extremes, a third class of mothers, who, with a heart concentrated in the fulfilment of their high calling, and animated by the impulse of heavenly love for what is or may become heavenly in their children, pursue that one object in singleness and in simplicity, with energy and with intelligence, with assiduity but without fidget, with dignity but without parade. This class of mothers, however, unfortunately for our species, is more ideal than real. We know, it is true, a few mothers that belong to it, or, at least, endeavour to reach it; but they are few, indeed!

tion, raised from the elements of art and nature: all this I saw, and my attention was excited to the highest degree.

"There were some parts of his experiment, it is true, which seemed to me rather unnatural; of this description was, for instance, the repetition of difficult and complicated sentences, which could not, at first, but make a very confused impression upon his pupils. But I saw, on the other hand, what a power he had of leading children into clear ideas; yet I mentioned my doubts to him. His answer was, that nature herself presented all sorts of perceptions to our senses in confusion and obscurity, and that she brings them to clearness afterwards. To this argument I had nothing to reply,* especially as I saw that he attached no value to the details of his experiment, but tried many of them with a view to throw them aside again, as soon as they should have answered their temporary purpose. With many of them he had no other object than to increase the internal power of the children, and to obtain for himself further information concerning the fundamental principles on which all his proceedings rested. I resolved, therefore, not to mind the apparent inadequacy of some of his means, so much the more as I had come to the conviction, that the further pursuit of the experiment necessarily involved the improvement of the details of the method. This was perfectly evident already in arithmetic, in drawing, and in the rudiments of language.

"I perceived, likewise, that by the connexion which his different means of instruction had with each other, every one of them, individually, was instrumental in promoting the success of all the others, and, especially, in developing and strengthening the faculties generally. Long before he began

* The obvious reply was, that the perceptions which nature presents, however confused, or otherwise obscure, they may be, are realities, and therefore contain in themselves the very elements of clearness, and at the same time, a strong inducement to search for those elements. But confused impressions made upon us by words, are not realities but mere shadows; they have in themselves the elements of confusion, and they offer neither an inducement, nor the means, for clearing them up. The former call out the mind, the latter cramp it. The very power which Pestalozzi possessed over his pupils, what was it owing to, according to the statements both of himself and his friends, but to his making a rule of supplying the child with a clear and distinct notion of the reality, before he gave him the sign or shadow, the name? In the progress of his narrative he declares himself, that it was one of the characteristic features of his method of teaching language, that he reduced it to the utmost simplicity, "by excluding from it every combination of words which presupposes a knowledge of language." He was not, however, at all times, equally clear on this point, although it lies at the very foundation of all his improvements in elementary instruction; and the darkness, in which it occasionally presented itself to his mind, is, more than any thing we could say, calculated to vindicate him against the imputation of being a mere theorist; for his theory was throughout the fruit of practice, his philosophy of the human mind essentially experimental.

to lay down his principles in stated terms, I saw, in the daily observation of their practical effect, the approaching maturity of the whole undertaking, and, as an infallible consequence of it, the gradual attainment of the object he had in view. In trying the details of his method, he never leaves any single exercise until he has so far investigated and simplified it, that it seems physically impossible to advance any farther. Seeing the indefatigable zeal with which he did this, I was more and more confirmed in a sentiment, of which I had before had some indistinct notion, that all the attempts at fostering the development of human nature, by means of a complicated and artificial language, must necessarily end in a failure; but that, on the contrary, a method intended to assist nature in the course of human development, must be characterised by the utmost simplicity in all the means of instruction, and more especially in language, which should be a faithful expression of the simplicity of both the child's own mind, and the objects and ideas which are employed for its cultivation. I now began to understand, by degrees, what he meant by introducing a variety of distinctions in the instruction of language; by aiming, in his arithmetical instruction, at nothing else but producing in the child's mind a clear and indelible conviction that all arithmetic was nothing else but an abridgment of the simple process of enumeration, and the numbers themselves nothing but an abridgment of the wearisome repetition, one, and one, and one, and one; and, lastly, by declaring an early development of the faculty of drawing lines, angles, curves, and figures, to be the groundwork of art, and even of the capacity, which so few men possess, of taking a distinct view of visible objects.

"I could not but feel every day more confirmed in the notions which I had formed of the manifold advantages of his method, by being a constant witness of the effects produced by a general development of the mental faculties in the arts of measuring, calculating, writing, and drawing. I grew more and more convinced that it was possible to accomplish what I have before stated to have been the leading object of my own pursuits at a previous period, viz. to re-educate mothers for the fulfilment of that sacred task assigned to them by nature, the result of which would be, that even the first instruction imparted in schools, would have previous maternal tuition for a foundation to rest on. I saw a practical method discovered, which, admitting of universal application, would enable parents, who have the welfare of their offspring at heart, to become themselves the teachers of their little ones. From that moment, popular improvement ceased to be dependent on the circuitous plan of training teachers in expensive seminaries, and with the aid of extensive libraries.

"In short, the result of the first impression produced upon my mind by the whole of Pestalozzi's experiment, and of the observations I have since been able to make on the details of his method, has been, to re-establish in my heart that faith which I held so dear at the onset of my career, but which I had almost lost under the pressure of systems sanctioned by the fashion of the day, faith in the practicability of popular improvement.

CHAPTER XX.

*Self-biography of Buss—His Introduction to Pestalozzi—
The Alphabet of Forms.*

THE last, and perhaps the most interesting, of the three memoirs, which are inserted as so many episodes, in Pestalozzi's work, is that of Buss, whose career, full of discouragements and disappointments, is a perpetual illustration of the "pursuit of knowledge under difficulties." We give his own narrative :

"My father was employed in some menial office in the divinity college* at Tuebingen, in which he had free domicile. From the age of three to the age of thirteen years, he sent me to the grammar school, where I learned whatever was to be learned in it for a boy of my age. My leisure hours I passed chiefly among the students, with whom I ingratiated myself by my cheerful humour. In my eighth year one of them taught me the piano, but he removed from the university six months afterwards, and thus I was left to my own zeal and exertions. By constant assiduity, however, I made such progress that, at the age of twelve, I was able myself to instruct a lady and her son with good success.

"At the age of eleven I received instruction in drawing, and was, at the same time, engaged in learning Greek and Hebrew, logic, and rhetoric. My parents intended to qualify me for a literary career, either by sending me to the Academy of Arts and Sciences, then newly established at Stuttgart,† or by placing me under the tuition of the professors at Tuebingen.

"In the first-mentioned institution, youths of all classes were at that time received, some of them gratuitously. The pecuniary means of my

* An establishment in which divines are educated at the expense of the state.

† This institution, which combined a severe military discipline with the then modern improvements in education, was given up by its founder, the reigning Duke Charles of Wurtemberg, on account of his pecuniary embarrassments.

parents were so limited, that they could not incur the slightest expense for me. They petitioned, therefore, Duke Charles, for my gratuitous reception into his academy, and a *manu propria* refusal was the answer. About the same time an edict was promulgated, prohibiting children of the middle and lower classes from embracing a literary career. The disappointment of seeing my prospects thus cut off, affected me very much. My youthful mirth disappeared, the cheerfulness of my disposition vanished, and my courage sunk. Yet I did not give up all hope, but applied myself with all my energies to drawing: my teacher, however, being obliged after six months to leave the place on account of his bad conduct, this plan, likewise, was defeated; and without means, and without hope, I was at last obliged to apprentice myself to a bookbinder.

"My disposition had, at that time, hardened itself into a sort of callous indifference. I consented to learn that trade, as I would have consented to learn any other, in order to extinguish in myself all recollection of the dreams of my youth, by unremitting attention to manual employment. This, however, I was unable to accomplish. I worked away, but I was inexpressibly wretched, and cherished feelings of bitterness against a world, by which I found myself so deeply injured. I had employed all my past life in occupations, whose object it was to open to me a literary career, and from this career, and from all the hopes which I had built upon it, I saw myself now precluded by an arbitrary enactment, which was the more revolting to my mind, as the oppressive law was contrary even to old custom. Yet I did not utterly despair of attaining the end proposed; I hoped that by assiduity in my trade I might, perhaps, be enabled to earn the means of returning to my studies, and of making up, somewhere or other, for the time lost in manual labour.

Having served my apprenticeship, I began to travel,* but the world was not wide enough for me. Growing melancholy and sickly, I was obliged to return home; and here I made a new attempt to get rid of my trade, hoping that the little knowledge of music I had retained, would enable me to earn my bread in Switzerland.

"With this hope I went to Basel; but my circumstances, and the events

* It is a national practice in Germany for a young man who has served his apprenticeship, to set out travelling. He proceeds as far as his inclination or his purse will carry him, and then stops, wherever it be, and practises his calling. When he has made some savings, and the inclination for travelling has returned, he sets out again; and this mode of life he continues, till he establishes himself in business, generally in his native place. The risk he runs in these expeditions is not great, as in every town each trade has a purse, from which every stranger of that trade who wishes for employment, and cannot get it, receives assistance sufficient to carry him to his next station.

of my past life, had given me a degree of shyness, which foiled me in all my attempts at money-getting. I had not the courage to tell the people all that a man must say to obtain from them what I wanted. A friend of mine who met me by accident at that moment of embarrassment, reconciled me for a short time to the bookbinding business; I entered once more into a workshop; but the very first day I sat down in it, I began again to indulge myself in my dreams, thinking it still possible, that a better chance might turn up for me in time, although I was quite aware that I had lost too much of my skill in music and drawing, to rely upon those two attainments for an independent subsistence. I consequently changed my place, in order to gain time for practice in both, and I was lucky enough to get two spare hours a day, and to form acquaintances, which assisted me in my progress.

"Among others I was introduced to Tobler, who soon perceived the gloom by which I was oppressed; and having ascertained the cause, was desirous of assisting me in gaining a more favorable position. When, therefore, Kruesi informed him that Pestalozzi stood in need of a drawing and music master for the full organization of his new method, his thoughts immediately turned towards me.

"I was, as I have before stated, fully aware of my deficiencies; and the hope that I should meet with an opportunity of improving myself, had no small share in my determination to go to Burgdorf, in spite of the warnings which I received from several quarters against forming any connexion with Pestalozzi, who, they told me, was half mad, and knew not himself what he was about.* In proof of this assertion they related various stories; as, for instance, that he once came to Basel, having his shoes tied with straw, because he had given away his silver buckles to a beggar on the road. I had read 'Leonard and Gertrude,' and had, therefore, little doubt about the buckles,† but that he was mad, that I questioned. In short, I was determined to try. I went to Burgdorf. I cannot describe the feelings I had at our first interview. He came down from an upper room with Ziemssen, who was just then on a visit with him, his stockings hanging down about his heels, and his coat covered with dust. His whole appearance was so miserable that I was inclined to pity him, and yet there was in his expres-

* I feel, of course, that there is some impropriety in my publicly repeating these things. But Pestalozzi wished to have it so; requesting that I should describe, without any reserve, the impression which he, and all that I heard of him, made upon my mind. Buss.

† We never admired this often-repeated anecdote of the silver buckles and straw-tied shoes; first, because straw was the most conspicuous, but not the most obvious substitute for silver buckles; secondly, because the publicity of the story proved, that his right hand knew too well what his left hand had done. But this publication of it in print, under Pestalozzi's own auspices, has always disgusted us.

sion something so great, that I viewed him with astonishment and veneration. This, then, was Pestalozzi? His benevolence, the cordial reception he gave to me, a perfect stranger, his unpretending simplicity, and the dilapidated condition in which he stood before me; the whole man, taken together, impressed me most powerfully. I was his in one instant. No man had ever so sought my heart; but none, likewise, has ever so fully won my confidence.

"The following morning I entered his school: and, at first, I confess I saw in it nothing but apparent disorder, and an uncomfortable bustle. But I had heard Ziemssen express himself the day before with great warmth concerning Pestalozzi's plan; my attention was excited, and, conquering in myself the first impression, I endeavoured to watch the thing more closely. It was not long before I discovered some of the advantages of the new method. At first I thought the children were detained too long at one point; but I was soon reconciled to this, when I saw the perfection which they attained in their first exercises, and the advantages which it ensured to them in their further progress. I now perceived, for the first time, the disadvantages under which I myself had laboured, in consequence of the incoherent and desultory manner in which I had been taught in my boyhood, and I began to think that if I had been kept to the first elements with similar perseverance, I should have been able afterwards to help myself, and thus to escape all the sufferings and melancholy which I had endured.

"This notion of mine perfectly agrees with Pestalozzi's principle, that by his method men are to be enabled to help themselves, since there is no one, as he says, in God's wide world, that is willing or able to help them. I shuddered when I read this passage for the first time in Leonard and Gertrude. But, alas, the experience of my life has taught me, that unless a man be able to help himself, there is, actually, no one in God's wide world, able or willing to help him. I now saw quite clearly that my inability to pursue the plan of my younger years in an independent manner, arose from the superficiality with which I had been taught, and which had prevented me from attaining that degree of intrinsic power of which I stood in need. I had learned an art, but I was ignorant of the basis on which it rested; and now that I was called upon to apply it, in a manner consistent with its nature, I found myself utterly at a loss to know what that nature was. With all the attention and zeal I brought to the subject, I could not understand the peculiar view which Pestalozzi took of drawing, and I could not at all make out his meaning, when he told me, that lines, angles, and curves, were the basis of drawing. By way of explanation he added, that in this, as in all other matters, the human mind must be led from indistinct intuitions to clear ideas. But I had no idea whatever, how this was to be done by drawing. He said it must be done by dividing the square and the curve, by distinguishing their simple elements, and comparing them with each other. I now tried to find out what these simple

elements were, but I knew not how to get at simple elements, and in endeavouring to reach them, I drew an endless variety of figures, which, it is true, might be called simple, in a certain sense, but which were utterly unfit, nevertheless, to illustrate the elementary laws which Pestalozzi was in search of. Unfortunately he was himself no proficient either in writing or drawing; though, in a manner to me inconceivable, he had carried his children pretty far in both these attainments. In short, months passed away before I understood what was to be done with the elementary lines which he put down for me. At last I began to suspect that I ought to know less than I did know, or that, at least, I must throw my knowledge, as it were, overboard, in order to descend to those simple elements by which I saw him produce such powerful, and, to me, unattainable effects. My difficulties were immense. But the constant observation of the progress which his children made in dwelling perseveringly on his "elements," brought my mind, at last, to maturity on that point; I did violence to myself, and, abandoning my preconceived notions of the subject, I endeavoured to view all things in the light of those same elements; till, at last, having reached the point of simplicity, I found it easy in the course of a few days, to draw up my sketch of an alphabet of forms.

"It was completed, and still I knew not its nature; but the instant I caught a glimpse of its meaning, I also perceived its full bearing upon the development of the mind. I had not known before, that the art of drawing consisted of mere lines.

"Whatever my eyes glanced upon from that moment, I saw between lines which determined its outline. Hitherto I had never separated the outline from the object, in my imagination; now I perceived the outline invariably as distinct from the object, as a measurable form, the slightest deviation from which I could easily ascertain. But I now fell into another extreme. Before I had seen nothing but objects; now I saw nothing but lines; and I imagined that children must be exercised on these lines exclusively, in every branch of drawing, before real objects were to be placed before them for imitation, or even for comparison. But Pestalozzi viewed his drawing lessons in connexion with the whole of his method, and with nature, who will not allow any branch of art to remain isolated in the human mind. His intention was, from the first beginning, to lay before the child two distinct series of figures, of which one should be contained in his book for the earliest infancy, and the other should furnish practical illustrations for a course of lessons on abstract forms. The first were intended to form, as it were, a supplement to nature, in giving children an intuitive knowledge of things and their names. The second was calculated to combine the practical application of art with the theoretical knowledge of its laws, by connecting the perception of abstract forms with an intuitive examination of the objects that fitted into those forms. In this manner he meant to bring nature and art to bear upon each other; so that, as soon as the children were able to draw a line, or a figure, real objects should be presented to them, so exactly corresponding as to render their imitation a

mere repetition of the same exercise which they had before performed in the abstract.

"I was afraid lest, by giving the child real objects, his perception of the outline should be disturbed, but Pestalozzi did not wish to cultivate any power against nature, and he said concerning this subject: 'Nature gives no lines, but only objects to the child; the lines must be given to the child, that he may view the objects correctly; but to take the objects from him, in order to make him see lines only, would be exceedingly wrong.' And upon another occasion, when speaking of the danger of throwing away nature for the sake of the lines, he grew so warm, as to exclaim: 'God forbid, that for the sake of these lines, or for the sake even of the whole art of drawing, I should separate my children from the intuition of nature, and harden their minds against it, as the priests of idolatry do by their superstitious doctrines.'

"I saw at last what he meant, and then I found that the plan of the two books before mentioned was in exact conformity with nature, and called in the assistance of art only with a view to render the impressions of nature upon the child's mind subservient to the development of his faculties.

"But there was another difficulty in which I had entangled myself. Pestalozzi told me, that children must learn to read those outlines like so many words, by denominating their different parts, the lines, angles, and curves, with different letters, so that their combinations may be as easily expressed in language, and put down in writing, as any other word by the composition of its letters. In this manner an alphabet of forms was to be established, and a technical language created, by means of which the nicest distinctions of the different forms might be clearly brought before the mind, and appropriately expressed in words calculated to illustrate them by the difference of their formation."

For the better understanding of what is said about this alphabet of forms, we subjoin a woodcut of that division of the square and circle, by which its different lines and figures were obtained.



This alphabet of forms, however, was never published, for it was soon superseded by more matured labours, the fruits

of prolonged experience. Of the different courses of drawing issued from the Pestalozzian school, we think that of Ramsauer decidedly the best, though even that is by no means satisfactory. The idea of forming a new technical language, however interesting as a proof of the originality of Pestalozzi's experiments, is, we fear, not of great practical value; to us it seems far more to the purpose to cultivate, correct, and fix the technical language already in existence, than to create a new one, and thus burden the child, who may not be able to dispense with the former, with a double set of signs.

But we return to the narrative of Buss:

"Pestalozzi persevered until I understood him. I saw that I gave him a great deal of trouble, and I was sorry for it. It was, however, unavoidable, and but for his patience we should never have made an alphabet of forms.

"At last I succeeded. I began by the letter A. I showed him what I had done; he approved of it, and now one thing followed from the other without any difficulty. In fact, the figures being once completed, the whole was done; but I was unable to see all that I had done; I had neither the power of expressing myself clearly on the subject, nor the capability of understanding the expressions of others.

"To remedy the defect under which I laboured, is, however, one of the most essential objects of Pestalozzi's method, which connects language throughout with the knowledge gained from nature by the assistance of art, and supplies the pupil at every stage of instruction with appropriate expressions for what he has learned.

"It was an observation which we all of us made upon ourselves, that we were unable to give a distinct and accurate account, even of those things of which we had a clear and comprehensive idea. Pestalozzi himself, when explaining his views on education, had great difficulties in finding always the precise term which would convey his meaning.

"It was this want of precise language, in fact, which caused me to remain so long in the dark concerning the nature of my task, and prevented me from perceiving what Pestalozzi's views were on that subject.

"After I had overcome all these difficulties, my progress was rapid, and I felt every day more the advantages of his method. I saw how much may be done by precision and clearness of language on the subject of instruction, whether it be one of nature or of art, to assist the mind in forming a correct notion of forms and their proportions, and in distinguishing them clearly from each other; and I could not, therefore, but be aware of the paramount importance of enlightened and careful instruction in the signs which language supplies for the designation of things, their properties, relations, and distinctions. Experience confirmed the conjecture which I had formed, that

children taught upon this method would make more accurate distinctions, than even men accustomed, from early life, to measuring and drawing; and the progress which many of our children made, was, beyond comparison, greater than that which is commonly obtained in schools.

"It is very true, I saw the whole of Pestalozzi's method only through the medium, as it were, of my peculiar branch of instruction, and judged of its value by the effects which it produced in particular application to my art. But my anxiety to enter fully into the spirit of it, led me, in spite of that limitation, by degrees to investigate the bearing which it had upon other branches; and, at last, assisted by the practical illustrations which drawing afforded me, I succeeded in comprehending Pestalozzi's views on language and arithmetic. I saw that, as it was possible to proceed from lines to angles, from angles to figures, and from figures to real objects, in the art of drawing, so it must likewise be possible, in language, to proceed by degrees from sounds to words, and from words to sentences, and thereby to lead the child to equal clearness on that subject. As regards arithmetic, I was labouring under the same error as before, with reference to the intuition of objects. As I looked at these without reference to their outline, so did I view numbers without a clear notion of the real value or contents of each. Now, on the contrary, I acquired a distinct and intuitive idea of the extent of each number, and I perceived, at the same time, the progress which the children made in this branch of instruction. At length, it seemed to me a point of essential importance, that the knowledge and practice of the elements of every art should be founded upon number, form, and language. This led me to understand the difficulties with which I had so long been struggling in my own department. I saw how I had stuck fast from want of clearness in language, and how I was impeded by a confused idea of number. It seemed very obvious that the child cannot imagine, with any degree of precision, the division of any figure into its component parts, unless he have a clear idea of the number of those parts; that, for instance, if he is in the dark as to the extent of the number four, he must be equally in the dark on the division of any figure into four parts.

"I felt my own mind daily clearing up; I saw that what I had attained, had in itself a power, as it were, to carry me farther and farther; and applying this experience to the child, I came to the conviction, that the effect of Pestalozzi's method is, to render every individual intellectually independent, by awakening and strengthening in him the power of advancing by himself in every branch of knowledge. It seemed like a great wheel, which, if once set going, would continue to turn round of itself. Nor did it appear so to me only. Hundreds came, and saw, and said: 'It cannot fail. Poor ignorant men and women said: 'Why, that's what I can do myself at home with my child!' And they were right. The whole of the method is mere play for any one who has laid hold of the first elements, and has followed its progress sufficiently to be secured against the danger of

straying into those circuitous paths which lead man away from the foundation of nature, on which alone all his knowledge and art can securely rest, and from which he cannot depart without entangling himself in endless and inextricable difficulties. Nature herself demands nothing of us, but what is easy, provided we seek it in the right way, and under her guidance.

"One word more, and I have done. My acquaintance with Pestalozzi's method has in a great measure restored to me the cheerfulness and energy of my younger days, and has re-kindled in my bosom those hopes of improvement for myself and my species, which I had for a long time esteemed as vain dreams, and cast away, in opposition to the voice of my own heart."

CHAPTER XXI.

*The Theory of the Plan—Analysis of the Mental Operations—
Three Elementary Points; Number, Form, Language.*

WE have now arrived at that part of the work before us, in which Pestalozzi attempts to lay down what he calls the "theory of his method," or his system of metaphysics at the time when these letters were written. But even if the object of the present volume were of a less practical tendency, even if we had proposed to ourselves the elucidation of dogmas and theories, still we should be exceedingly reluctant to scare away our readers by disquisitions and propositions, which while they evidently bespeak a painful, because unnatural exertion on the part of the author, convey to the reader no other idea than that of an unintelligible jumble of scholastic terms, all of which are, and remain, undefined in the book, probably because they were so in the writer's own mind. In Germany, where it is impossible to advance any thing with success, unless it be properly established upon a "metaphysical basis," Pestalozzi may have thought it indispensable to strain the point, and, though he were ever so conscious of his inability, to exclaim, "*Anch' io son pittore*:" we, however, may feel ourselves relieved from the dire necessity, by which he was swayed; for assuredly the public, for whom we write, cannot be taxed with an extravagant predilection for the transcendental. Even if Pestalozzi's "theory of his plan" were a pattern of metaphysical clearness and precision, still we presume that we might safely take shelter under the perpetual act of indemnity, unanimously passed each publishing season in favor of those who have saved their readers the trouble of thinking; much more, then, are we disposed to

avail ourselves of the liberality of the public in a case like the present, in which we could not hold out the prospect of an adequate return for their outlay of time and thought. To cut off, however, even the slightest pretext of complaint on the score of omission, to such as might be hypercritically inclined, we shall guard ourselves against the charge of presumption in what we have said of our author's talent for the abstruse, by quoting his own words at the beginning of the sixth letter, in which he returns to more practical topics :

"My dear friend, if you find that I do not succeed in explaining the theory of my plans, I hope you will take the will for the deed, seeing what pains I am taking. Ever since the age of twenty I have been completely unfitted for systematic metaphysics; and fortunately for me, the practical success of my plan does not depend upon this sort of philosophy, which seems to me so toilsome."

We shall now follow Pestalozzi, for a moment, in that train of thought by which he was led to arrange under three heads the different elementary branches of his method, as a knowledge of the view on which his classification rests, is indispensable for a correct understanding of the subsequent chapters.

"When I had begun to teach reading, I found out, after a while, that my pupils wanted first to be taught speaking; and when I set about trying how I could accomplish this, I came at last to the principle, of following the progress of nature in the composition of single sounds into words, and words into speech.

"Again, in endeavouring to teach writing, I found that I must begin by teaching my children drawing; and, when I took this in hand, I saw that without the art of measuring there is no drawing.

"When I attempted to teach spelling, I felt the want of an appropriate book for the earliest childhood; and I conceived the plan of one, by the aid of which, I have no doubt that children of three or four years of age might be brought to a degree of real information, far superior to that which is commonly acquired at school about the age of seven or eight years.

"In this manner I was led to the invention of positive practical aids to instruction; but the very circuitous way in which I made each single discovery, left no doubt in my mind as to the defectiveness, and even superficiality, of the view which I was still taking of my subject. I was long searching for an universal basis on which all my means of instruction might rest, being well convinced, that on this ground alone I could hope to

establish, for the development of human nature, a method conformable to the laws of that nature. It was very evident to me, that there must be a form of instruction corresponding with the organization of our mind ; and I saw, likewise, that the process of the latter is essentially, to reduce those compound impressions, which our senses receive from nature, to simple unities ; that is to say, to abstract ideas which, at first vague, are gradually developed to a higher degree of clearness.

"Every line, every measure, every word, said I to myself, is a production of the intellect, formed by abstraction from matured intuitions, and subservient to the progressive unfolding of our ideas into clearness. The same course is, or ought to be, pursued in all instruction, and the principles of education must therefore be derived from the invariable and primitive form of our mental development.

"A comprehensive and yet minute knowledge of that form seemed, therefore, to me essential, and I returned again and again to those elements of thought in which it is manifested.

"The world, said I to myself, in my reveries on that subject, lies before us like an ocean in which confused perceptions follow each other, as, on the vast surface of the deep, waves roll upon waves. The art of instruction, then, consists in removing the confusion of this indefinite succession of perceptions, by distinguishing the different objects from each other, and reuniting those that are analogous or related to each other, in one idea, which is to comprehend them all, and present them to our mind in that clearness and distinctness which is obtained by separating their essential and common properties, from the accidental peculiarities of each single object. First, we must detach each perception from those with which it is, in nature, interwoven ; then we must observe each single perception through all the variations and changes to which it is liable ; and, lastly, we must determine its proper place in the circle of knowledge which we have already acquired ; so that, progressively, we come from confusion to distinction, from distinction to clearness, from clearness to insight.

That is to say, if we apprehend the meaning of our author correctly, "We first possess ourselves of our object, by separating it from the influence which the simultaneous perception of other objects has, in confusing our senses and our mind ; we then examine the object in itself, in order to ascertain what is its basis, or its invariable nature, and what are the states and changes to which it is liable, the impressions that can be made upon it, the expressions or manifestations of which it is capable ; and, lastly, we replace it in the universe of creation, from which we have torn it, for the purpose

of examination, and ascertain both the station which the object, according to its invariable nature, holds in the scale of existences, and the bearing which its states and changes have upon the life of the universe ; the mode in which the object contributes to the universal march of things by its own manifestations, and the manner in which it is affected in itself by that march of things." It is important, however, that we should not only be aware of this matter of fact, but that we should likewise see *how* these things are. "The universe lies before us as an ocean of confusion." True ! but let us examine where the confusion lies. Would there be that confusion in it, if we could see it with a luminous eye ? Obviously not. Our mind, darkened and reduced to a finite condition, cannot follow this infinite display of life and light. Wherefore it is obliged to cling to one point of that life, to sever it from the whole, to reduce it, as it were, to its own dead and finite state, in order to understand it. It was a glowing pulse in the sphere of creation ; it becomes a dead stain of blood in our investigating hand. In its connexion with the infinite, with the universal life, we could not see, could not feel, could not understand it ; we have rendered it accessible to us, by separating it from the infinite, and rendering it finite, by cutting it off from life, and making it dead. There is, in this respect, the strictest analogy between our scientific systems, and our herbaries, our geological, ornithological, and other "logical" museums. In them is to be found whatever the creation contains, except its life. So far, then, but no farther, does human nature (in the English sense of the term) lead us, and so far does instruction follow nature. But there is one step farther to which the divine nature alone can lead, and in which instruction ought to follow it, though it does not. There is a tendency in our soul which obdurate resistance only can repress, a tendency, not to rest satisfied with having reduced creation to the level of our own littleness, to the measure of our own selfish contraction ; but on the contrary, to make creation a stepping-stone for our return to the Godhead. It is the power which produces in

us this tendency, that prompts us to restore that which we have reduced to our own dead and finite condition, to the place which it held in the life of the whole; it is that power which being in itself life and light, shows us the thing so restored to its pristine condition, in its universal bearing; and invites us, by the repeated comparison of death and life, to give up even ourselves to be restored to our original station in the universal life. Is not this invitation the very purpose for which creation is displayed before our eyes? Or, if it is not this, what else is it?

This, then, is the distinctive feature of that instruction which we would advocate; of that instruction which Pestalozzi advocated, though, perhaps, not clearly conscious of its real foundation; instruction in subserviency to that power of life and light, by which the universe, to the darkened creature an ocean of confusion, is converted into an ocean of intelligence. But we repeat it, this instruction is not the work of human nature, nor of human art; it is the work of the divine nature, and of those men whom the divine nature has chosen and fitted to be its instruments for that purpose. In the sense here pointed out we fully concur in the sentiment of our author, that in the process which he has described, "instruction does no more than what nature herself does for us without the assistance of art; and the only advantage we derive from the latter is, that it accelerates the progress of the former, so as to enable the individual to keep pace with the general progress of human civilization.

"Nature, in her progress towards this development, is invariably following the important law, that the degree of clearness of our knowledge depends on the greater or less distance of the objects, which we perceive through our senses. Every thing in the surrounding world appears, *cæteris paribus*, confused to our senses, in proportion as it is distant from them; whatever, on the contrary, is near to our five senses, appears to us in the same measure distinct; and, though habit alone can enable us to take a clear view of any, even the nearest object, at the first glance, yet the difficulty or facility which we have in forming a clear idea of things, depends essentially on the degree of their distance or nearness.

"As far as I am an inhabitant of the visible world, my five senses are myself; and, therefore, the clearness or obscurity of my ideas must necessarily depend on the distance from which each impression reaches these five

senses, that is to say, myself as the central point in which all my perceptions converge.

"I myself, the centre of all my perceptions, become, moreover, myself the object of the exercise of my perceptive faculties; whatever I am myself, I can feel and understand more clearly and more easily, than whatever is out of myself; whatever I feel of myself, is in itself a distinct and clear perception; and that only can be confused, which is out of myself. Consequently the course of my knowledge concerning myself, is one step shorter than the course of that which I acquire concerning other objects. Whatever I am conscious of concerning myself, is a matter of distinct consciousness: moreover, what I truly know, is part of myself; and, consequently, admits of distinct consciousness, as it is included in the knowledge I have of myself: hence it follows, that this is the point from which I must set out for the acquisition of clear and distinct ideas; and of all clear things, nothing can be clearer than the principle, that "All man's knowledge of truth is founded upon his knowledge of himself."

This is perfectly true; not, however, because whatever man knows of himself is *eo ipso* clear, for on no subject is it more difficult to bring man to clearness than concerning himself; but because man can know nothing in reality, and therefore clearly, unless he have made it intellectually or morally a part of himself. Hence it follows, that as long as man is in the dark concerning himself, the way of all other knowledge is shut up to him; and that the first step he must make, to come into clearness concerning any thing, is to dispel that darkness in himself, which will not allow him to get clear even concerning himself, much less concerning any thing else.

Pestalozzi is, therefore, perfectly correct in considering man's mind as the centre from which all knowledge is to branch out, and we find as a practical proof of the truth of this observation, that by analyzing the operations of his own mind in the contemplation of outward objects, he arrived at a clear, and in the main, correct view of the different objects of knowledge.

"It occurred to me, upon one occasion, to concentrate my attention upon the manner in which a man, whose mind is already cultivated, must proceed, in order properly to analyze, and clearly to comprehend any object that comes

before his mind in darkness and confusion. The following was the result of my inquiry.

"He must direct his attention to the following three points :

"1. How many objects, and of how many sorts he has before him.

"2. What is their appearance, their shape, or outline.

"3. What are their names; in what manner he may represent each by a sound or word.

"To succeed in this examination, he must obviously have the power :

"1. To view dissimilar objects according to their shape, and to form an idea of what is contained within the shape of each.

"2. To distinguish those objects numerically, and to form an idea of them, either in the plurality in which they exist, or in the unity which he gives to them in his mind.

"3. To give to the ideas, so formed upon the basis of shape and number, expression in language, and thereby to impress them more firmly upon his mind.

"Hence I concluded, that number, form,* and language, when brought in connexion with each other, are the elements of instruction; inasmuch, as the whole of the external properties of objects is contained within the sphere of their outline and their numerical proportions, and brought home, distinctly, to our consciousness, by language. It must therefore be laid down, as a fundamental law in education, that instruction is to be founded upon this three-fold basis, in order to enable children

"1. To view every object which falls under their perception, as a unit; that is to say, as distinct from all the other objects with which it seems connected.

"2. To make themselves acquainted with its form or outline, with its measure and its proportions.

"3. To designate, as early as possible, by corresponding names, all the objects which have thus come to their knowledge.

"Upon these three fundamental points all elementary instruction is to be built: and it is evident, therefore, that the object of our first exertions in education must be, to develop and strengthen, in that manner which is most conformable to nature, the faculties of number, of form, and of language, since upon the healthy state, as it were, of those faculties, the correctness of our perceptions essentially depends. This requires that the means by which those faculties are developed and cultivated, should

* When this elementary branch of instruction is spoken of, we prefer the abstract and more general term "form;" whilst, in application to real objects, the usage of the English language obliges us to substitute in its place the concrete and more limited term "shape."

be brought to the utmost simplicity, to perfect consistency and harmony with each other.

"The only difficulty that occurred to my mind, after I had made this discovery, was the question: 'How is it that the other properties of things, of which our five senses apprise us, do not as well as number, form, and name, constitute elementary points of our knowledge?' But I soon found, that number, form, and name, are found universally in all objects, whereas the other properties discoverable by the five senses are not common to all, but vary in the different sorts of objects. There seemed, therefore, to me, to be this essential difference between the number, form, and name of an object, and its other properties, that the three former only can be considered as constituting fundamental points of knowledge.

Our author here quite forgets that the name is not at all a property of the object, but a sign to supply its place. Yet strange to tell, in this, as in most cases, where his theory is erroneous, his practical view is correct; a fact, strange in itself, but easily accounted for, if we consider that his theories were the result of his practical views, and not his practical views the result of his theories. He could err, therefore, in the latter, without prejudice to the former.

As regards the point in question, it is correct, that number, form, and language, constitute the three elementary and fundamental branches of instruction, not from the reason assigned by Pestalozzi: but, the two former, because they are the abstract expressions of the universal laws of outward creation, form with reference to space, and number with reference to time; to which laws all the other properties of visible things are subject: and language, because it is the expression of the internal law of human nature, which, as a mirror of the universe, contains in itself a reflexion of the external world. The two former are essentially consistent with truth, because in outward creation the law, or will of God, is manifested with undeviating necessity. The latter is consistent with truth, only so far as it is the result of a mind internally restored by reception of, and submission to the divine life; of a mind, emphatically speaking, *in-formed* of the truth.

CHAPTER XXII.

Pestalozzi's View of the Connexion of the Different Branches of Instruction—The Mother's Manual.

THE letter from which we have given some extracts, in the preceding chapter, is followed in the original by an abstract of the "elementary branches;" after which, in two letters, the author enters upon a retrospect of his views and plans; and, while he details his mode of proceeding concerning those parts of the method in which success had been obtained or was anticipated by him, he assigns what he considers the causes of his failure in those subjects, on which he saw himself equally forsaken by experience and by hope. These letters are again followed by three others, in which, after having devoted the body of his work to "intellectual education," or "the acquisition of knowledge," he treats, in the first, of the necessity, rather than of the mode, of acquiring "practical abilities," or, as we should term it, combining industry with education; in the second, of moral education, founded upon maternal love as its principle; and in the third, which closes the work, of religious education.

Pestalozzi's classification of the different branches of knowledge varies considerably from the common arrangement, and it will therefore be necessary to follow him through some of the remarks, by which he introduces

his outline. Beginning from *sound*, as the first means of elementary instruction, he derives from it the following branches :

"1. Instruction in sounds, by which the several organs are to be cultivated.

"2. Instruction in words, with which a knowledge of single objects is to be connected.

"3. Instruction in language, which is to lead the child to express himself appropriately concerning the objects that have come to his knowledge, and all that he is able to know about them."

The instruction in sounds is again subdivided, as concerning

"1. Sounds of Speech.

"2. Sounds of Music."

The instruction in "words," as that by which the child learns to "name the different objects," is then distinguished from the instruction in "language," designated as "the process of denominating the properties of these objects." This process is subdivided as follows :

"I. Designation of the form and number of every object;" coinciding with the second and third "elementary means."

"II. Designation of all the other properties of objects, whether they be discovered by our senses, or by our imagination and judgment."

Under this head a vast range of knowledge is comprehended, as will appear from the following statement :

"I now distinguish the treasures of language, which are, as it were, the testimony of past ages concerning the universe, under the following heads :

"1. Geography.

"2. History.

"3. Physical Science.

"4. Natural History.

"But in order to avoid useless repetitions, and to make the course as short as possible, I subdivide these four heads at once into about forty sections,

and present to the child the names of different objects only in these subdivisions.

"I then take up the particular object of our observation, man himself, and arrange the whole of what language contains concerning him, under the following heads:

"1. Man as a merely physical or animal being.

"2. Man as a social, still animal being.

"3. Man as a moral and intellectual being, raised above the level of animal existence.

"These three heads I subdivide again into about forty sections, comprehending all that is to be said concerning man.

"III. Determination of the objects, their properties and different states, according to time and other relations in which they are placed, with a view still farther to illustrate all that the child has before learned concerning the nature, powers of action, and so on, of each object. This leads to the outline of a practical grammar."

The confusion of this arrangement seems to have struck Pestalozzi himself; since, in a note, added in the second edition, he states, that "all these experiments were afterwards laid aside as the results of views not sufficiently matured." Nevertheless, as Pestalozzi has not, either in the work before us, or elsewhere, supplied us with a more satisfactory view of the subject, we are obliged to have recourse to the above outline, so much the more as the remarks which he makes upon each particular branch, many of which are in themselves valuable, are all founded upon it.

The second means of elementary instruction, treated of by Pestalozzi, is *form*, under which head he gives the following subdivision:

"1. The art of Measuring.

"2. The art of Drawing.

"3. The art of Writing."

Lastly, our author enters upon the subject of *number*, as the third means of elementary instruction, in which no subdivision is made, and which closes the abstract on "the elementary branches of the method."

In order to enable our readers to form a perfectly clear view of the manner in which Pestalozzi viewed the con-

nexion of the different branches of education, we shall sum up the whole in the following table:

INTELLECTUAL EDUCATION.

FIRST ELEMENTARY MEANS, SOUND.

SOUNDS, OF

Speech,—spelling.

Music,—singing.

WORDS.

LANGUAGE.

Designation of form and number in objects;
(see below.)

Designation of all the other properties of objects, classed as objects of

Geography.

History.

Physical Science.

Natural History.

Determination of the objects, their properties and different states, according to time and other relations—grammar.

SECOND ELEMENTARY MEANS, FORM.

The art of measuring—geometry.

The art of drawing.

The art of writing.

THIRD ELEMENTARY MEANS, NUMBER—ARITHMETIC.

PRACTICAL EDUCATION,—INDUSTRY.

MORAL EDUCATION.

RELIGIOUS EDUCATION.

Not all the branches of instruction, however, which are enumerated in this table, are treated of in Pestalozzi's work; to some of them, indeed, he had paid no farther attention, beyond their insertion, oddly enough, among the "elementary means to be derived from the power of sound." This is the case, for instance, with history, physical science, and natural history; and the short fragment which he has given on geography, we shall insert, as a specimen of the aberrations from good sense to which this great mind was liable,

when he endeavoured to "systematize and classify," rather than as a pattern of geographical instruction. On the subject of singing, all that he says is, that the instruction

"ought to be conducted upon the general principle of beginning with the simplest elements, and bringing them to perfection in the first instance. This being done, new exercises are to be gradually, but slowly, introduced; above all things, however, a certain stiffness should be avoided, which is calculated to arrest every talent, and to confound every feeling for the beauties of the art."

There remain therefore, of specific branches of instruction, the method of which is illustrated in the work before us, only the following: spelling, grammar, (the instruction in words being likewise despatched with a few short remarks,) geometry, drawing, writing, and arithmetic; after which, as stated before, the three heads of practical, moral, and religious education, are separately treated in as many letters at the close of the book; so that, if in the publication of the present volume we contemplated nothing farther than an account of Pestalozzi's personal opinions on these subjects, we might content ourselves with selecting from the body of his work such extracts as would be best calculated to illustrate his mode of proceeding in the different branches mentioned. Our purpose, however, is not only to trace to their first origin, in the mind of Pestalozzi, those principles of education, which we feel ourselves called upon to advocate, but also to furnish parents and teachers, whose mind is alive to the subject, with practical hints, by which they may be enabled to turn those principles to account, for the more efficient discharge of their duty towards the rising generation. With this object in view, it is obvious that we must not confine ourselves to a mere statement of the results which Pestalozzi had obtained thirty years ago, when his mind first began to emerge from the obscurity in which, on that subject, it had been enveloped all his life, but that we owe to our readers whatever additional information it may be in our power to impart. The institution which Pestalozzi had formed about a twelvemonth before the publication of

"How Gertrude teaches her Little Ones," and which, after its removal to Yverdon, was, by the enthusiastic exertions of himself and his friends, brought into so flourishing a condition, exhibited, as we have stated on a former occasion, a far more perfect development of "the method," than his letters from Burgdorf. It is much to be regretted that the necessity of defence against the calumnious attacks of malevolent critics, and subsequently the unfortunate dissensions which drove Pestalozzi's warmest friends from his side, should have employed the best energies of his house in labours from which posterity will derive no benefit; and that, meanwhile, his establishment should have been permitted to die away, without having supplied the public with a work, embodying in a manner at once practical and comprehensive, the fruits of so much deep research and patient experience. Up to the present moment the same want still exists; and although, after the immediate access which we have had to the best sources of information, and the thought and labour which we have bestowed upon the theoretical, as well as practical part of the subject, it is out of our power to speak of our own competence to the task with that affectation of diffidence, which ill becomes the man whose mind is impressed with a clear and deep conviction of the truth; yet we entertain far too high a sense of the extent of such an undertaking, to imagine that the present volume can be any thing but, at best, a forerunner of what the public stand in need of, viz. a practical guide for truly Pestalozzian instruction in the different branches of education. Trusting then, that this statement of our intention will form more than an apology with our readers for whatever comments and supplements we shall deem it expedient to add, and likewise that Pestalozzi's repeated avowal of the immaturity of the views developed in the work we are analyzing, will secure us from the charge of presumption towards a man, for whose faults it is not necessary to be blind, in order to hold his name in veneration; we shall, in the progress of our labours, point out, in addition to the means detailed by our author, those

which appear to us best calculated for the attainment of the end proposed. In doing so, however, we shall not be able strictly to adhere to Pestalozzi's outline, which labours under this material defect, that it classifies the branches of knowledge according to the five senses and their corresponding bodily organs of action, instead of tracing them to the mental faculties employed in their investigation, or taking the characteristic distinctions of the things to be known, for the groundwork of his arrangement. Thus, for instance, he has brought *speech*, and *written character*, under two different heads, because, adhering to the outward fact only, he saw different organs employed, the ear and mouth in the former, the eye and head in the latter case. Had he, however, gone one step farther back, he would have found that both have one and the same mental operation for their basis, and that one and the same mental faculty is the prime mover in both. He would, accordingly have classed them under one and the same head, with no other difference than that between primitive and secondary signs, according to the order in which the mind ushers them forth; as will easily be seen if we trace the origin of both; thus:

Speech. Thought.—Sign of thought.

Written Character. Thought.—Sign of thought.—Sign of sign of thought:

—clearly showing that they both flow from the same source, the only difference being, that the latter is one step farther removed from it than the former, or in other words, by one step more external. A similar mistake has caused several distinct sciences to be ranged under the head of language, under which, to be consistent, all the other branches, form and number not excluded, ought to be classed, since they all pass, in the process of instruction, through the medium of language, as much as geography, history, or any other.

In deference to the exclusively practical tendency of the present volume, we shall not occupy our space by a statement of the connexion in which we ourselves view the different

branches of instruction ; but referring those of our readers, who may wish for information, to former publications in which we have fully discussed the subject,* we shall at once proceed to the practical details of the method, taking the subjects discussed by Pestalozzi in the following order :

Spelling and Writing,
Language, or Grammar,
Arithmetic,
Geometry,
Drawing,
Geography,

to which we shall add a supplement on the remaining branches of education.

We should premise, however, that in accordance with our author, we suppose the instruction detailed under those several heads, to be preceded by a judicious guidance of the infant mind, by a nursery-method, if we may be allowed that term, which shall regulate the treatment of the child from the moment of birth and assume the form of instruction—not lesson-giving—as soon as the child begins to have language, that is, to connect the idea of specific objects with certain articulated sounds. The want of such a method was acutely felt by Pestalozzi, who was ever and anon endeavouring to enlist mothers in the service of his cause. With a view to direct their efforts, he wrote the *Mother's Manual*, a work which, notwithstanding its great defects of execution, deserves, on account of the original conception on which it is founded, far more notice than it has hitherto received. The outline which Pestalozzi has given of it in his preface, embraces ten sections, by him called exercises, of which, however, the first seven only are practically illustrated in the book itself.†

* For a general view of the faculties of the mind, their connexion with each other, and their development, see in the *Christian Monitor and Family Friend*, our first lecture, p. 24—29 ; and in *Christian Education*, Lect. III. and Lect. IV. p. 106—131 : for a synopsis of the different branches of instruction, in their connexion with each other, see *Christian Education*, Lect. VI. p. 213—226.

† Several of these exercises have been given in a more appropriate form, in the *Christian Monitor and Family Friend*.

The first section contains a simple nomenclature of the different parts of the human body, gradually descending from the larger ones to the most minute.

The second section has for its object to draw the child's attention to the relative position which the different parts of the body have to each other.

The third section exhibits them in their connexion with each other, showing how several minor parts together form one whole, which, however, is itself again only a part of the body itself.

In the fourth section the child is led to inquire, in what number each part occurs, and to distinguish those which occur only once, from those which occur twice, three times, &c.

The sixth section considers the different parts with reference to their properties, those, at least, which are most easily discerned.

The seventh section enumerates the different uses to which each part may be, and the circumstances under which it is so, applied.

The eighth section was to have contained some information on the care and attention which every part of the body, according to its nature, requires.

The ninth section was to have directed the mind to the purpose for which the different parts of the body were endowed with the several properties enumerated in the sixth exercise.

In the tenth section, lastly, it was intended that the child should recapitulate the knowledge acquired in the preceding exercises, on each separate part of the body, with a view to give a complete and precise description of it.

However great may have been the imperfections of the first attempt made by Pestalozzi to fill up the details of the above outline: and however liberally the public may, from other quarters, and in other points of view, be supplied with guides and hints for the nursery; we know not that the cause of education could be more effectually assisted, than by

the publication of a manual, which would have Pestalozzi's original plan for its main foundation.

And may we not hope that the time is approaching when many mothers would receive such a work as a most valuable gift. It is now pretty generally admitted, that the earliest impressions are of great consequence, and it will hardly be asserted, that the usual trifling gossip of nurseries is in any way calculated to develop and strengthen the growing energies of the babe. The very reverse, distortion and weakness, is the natural effect of the treatment which children commonly experience at that stage of life; and whilst it would be wrong to restrain the mother or nurse by pedantic rules, and to make her "speak like a book;" yet on the other hand, it is not to be endured, that her conversations with the child should be carried on at random, without any forethought, concerning the effect to be produced, and the means of producing it. A manual for mothers and nurses ought, therefore, to contain far less of system, than books designed for the more advanced stages of instruction.

Regular lessons, on the human body, its outwardly visible parts, the numbers, size, appearance, structure, and other qualities of those parts, their position and relation to each other, and the uses to which they are adapted, should form the framework of the whole. The names for all this must, of course, be imparted to the child, in the first instance as a matter of fact; the tangible objects themselves forming the key to this nursery-vocabulary; and even afterwards, when the child has learned to gather language from the intercourse with others, the mother and nurse will still have to fill up occasional deficiencies. But, making due allowance for this, the tendency of the lessons, in that manual, should essentially be, to lead the child to discoveries by a variety of questions. These lessons then, should be interspersed with hints for mothers or nurses, on the best means of enlarging the child's sphere of thought, by leading him from himself, as the centre of his observations, to the persons and objects which surround him. Here it is, that instruction must entirely be left

to what might be termed the casualty of the moment; that is to say, it must be modelled, in every instance, according to the circumstances of the case; but these accidental teachings being merely so many excursions from a regular and straight road, to which the child is always brought back, and in which he gradually advances, exploring at the same time all the contiguous territories, that which is apparently casual, becomes, in reality, subservient to a stated and fixed plan. If executed in this manner, the manual for mothers and nurses would, so far from fettering them, on the contrary serve to enliven their own minds, and, at the same time, to render them thoughtful observers both of the child, and of the impressions made upon him. A childlike participation in the growth of the infant mind, would take the place of that deplorable disposition, so common among mothers and nurses, to make the tender and unconscious little being the object of childish, nay often apish amusement.

A few infantine, not puerile tales, within the sphere of the lessons contained in, or derived from, the manual, with good pictures to correspond, would form a valuable appendage. The text of the tales would of course be for the mother or nurse, and not for the child; the latter would have to do with the picture, and the explanation might be partly suggested by the mother, and partly elicited from the child himself. Some of the tales might be in the poetic form; or a few verses might be appended to some of them; but they ought to be in perfectly good taste, not a silly aggregate of rhymes, as most of those things are. They might be sung or repeated together by mother and child; not, however, without a previous inspection and explanation of the picture, in the manner before described, of which the verses ought to be no more than a paraphrase in a more attractive form. Among the thousands of children's books, some will here be tempted to ask, is there not one that answers this description? This question may fitly be answered by another: If one exactly fitted to the above outline, were to make its appearance, how many parents would be able to discern it from the

rest, and how many would have good sense enough to use it aright? There is, however, no danger of their being put very soon to the test; for it is infinitely easier to write an elaborate treatise on the philosophy of the human mind, or on the fundamental points of the orthodox faith, than to make a good child's book.

CHAPTER XXIII.

Method of Teaching Spelling and Writing.

No branch of instruction, perhaps, of all that formed part of his experiments, has derived more benefit from the helpless condition in which Pestalozzi found himself at Stantz, than that which has become proverbial for its baneful effect upon the tempers of "our little dears." Pestalozzi had no alphabets, no primers; he was reduced to his lungs as the only apparatus for the instruction in spelling; and thus he was, by necessity, driven to what, if the nature of the subject be considered, seems so obviously the right course, that it is difficult to conceive how it could ever enter men's minds to make that, which is essentially a matter of the ear, almost exclusively a business of the eye. As it would be preposterous to suppose that the language of our species began with written characters, to which afterwards certain sounds were attached, so is it equally preposterous to make the child's instruction in the composition of the sounds of language consequent upon the knowledge and combination of the characters of the alphabet. Of this Pestalozzi was perfectly aware, and accordingly the beginning of his "instruction in the sounds of speech" dates from the very cradle.

"It is not to be left to chance, at what time, and to what extent, the child shall become acquainted with each sound. An early and complete knowledge of them all is of great importance.

"This knowledge he should have, before he is able to pronounce them; and, in like manner, he should be able to pronounce them, generally, with ease, before he be introduced to the knowledge of written or printed characters, and taught to read.

"The spelling-book ought, therefore, to contain all the sounds of the language, and these ought to be taught in every family from the earliest infancy. The child who learns his spelling-book, ought to repeat them to the infant in the cradle, before it is able to pronounce even one of them, so that they may be deeply impressed upon its mind by frequent repetition.

"It is incredible to those who have not seen it, how much the attention of babes is excited by the repetition of a few simple sounds, and their combinations, such as : ba, ba, ba ; da, da, da ; ma, ma, ma ; la, la, la, and so on. But the charm which it has for them, is not the only advantage ; it contributes to the development of their faculties, and prepares them for future greater exertions."

This, we fear, is carrying "the system" rather too far back. We do not think that man can learn any thing as a mere receptive or passive being, without a practical exercise of his own active powers ; and on this ground we think it impossible for a child to get a knowledge of any sound, until he is able to pronounce it. But his growing ability for the various sounds should be carefully watched.

It would be found, on observation, that the fundamental sounds are produced spontaneously by the child at different periods. As soon as they appear, they ought to be taken up and exercised ;* the peculiar modifications, on the contrary, of these sounds, in the mother-tongue, ought to be taught at a later period, when perfection has been attained in the fundamental sounds, which to no children, perhaps, is more necessary than to those whose mother-tongue is the English, on account of the great preponderance which in this language the modified sounds, *sons nuancés*, have over the fundamental ones. To this fact it must be attributed, that the English have so much more difficulty than most continental nations in speaking foreign languages, and that they have mutilated the languages of classical antiquity by the most barbarous pronunciation that ingenuity could well have devised, if purposely attempting to disguise the beauty and harmony of their sounds. It is not, however, merely to facilitate the correct pronunciation of foreign or classical lan-

* The first ideas of number likewise may be awakened, earlier than by visible objects, by the repetition of da ; da, da ; da, da, da ; &c.

guages, but as much on account of the mother-tongue itself, that we would recommend an early attention to the cultivation of the organs of speech, by exercises comprehending all the fundamental sounds, of which, for this purpose, we subjoin a table; adding after those letters to which more than one pronunciation attaches in the English language, a word to mark the particular sound which is here intended. To prevent misunderstanding, and save repetition, we have had the letters, denoting the fundamental sounds, printed in peculiar type; which, wherever it occurs in the course of this chapter, represents the respective sounds as marked in the table.

A. [as in <i>father.</i>]	Ĳ. [as in <i>big.</i>]	Ue*
Θ. [as in <i>go.</i>]	Ɔ. [as in <i>bed.</i>]	U. [as in <i>rude.</i>]
Ɔ.	Ĳ.	Ɔ.
Ɔ.	Ɔ.	Ɔ.
Θ. [as in <i>gig.</i>]	Ɔ.	Ɔ.
χ.†	Ch.†	Ɔ.
Ɔg.† [as in <i>wrong.</i>]	Ɔ.	Ɔ.

We will not trouble our readers with a lengthy explanation of this table, but merely state,

1st. That the three perpendicular series contain the sounds produced in the three leading organs, or we should rather say, the three chief localities of speech; the throat, the cavity of

* The sound of the Greek *υ*, in the Greek (not the English) pronunciation, corresponding with the French *u*, in *lune* for instance; and with the German *Ue*.

† The aspirated *k*, the *χ* of the Greek, and the *ch* of the German languages, to which the Scotch pronunciation of the words *light*, *night*, &c. corresponds.

‡ **Ch**, although written with two characters in English, is in fact but one sound, and has accordingly been denoted by one letter, *Θ*, in the Greek, and **Ɔ** in the Anglo-saxon alphabet. The same is the case with the **Ɔg**, which is represented by a single character in the Spanish *ñ*.

the mouth, and the front of the mouth, whence the sounds produced in them might be denominated guttural, gingival, and labial.

2d. That the horizontal series enumerate the sounds according to the mode of their formation in the three organs mentioned; so that, for instance, the **ʒ** is obtained by the same operation in the throat which, in the cavity of the mouth, produces the **ʒ**; whilst, on the other hand, the **ʒ** and the **ʒ** both proceed from the cavity of the mouth, but under a different position of the organs. This will be easily seen on observing the analogy which exists between the respective sounds of any two of the horizontal series. The **ʒ**, for example, bears exactly the same relation to the **ʒ**, as the **ʒ** does to the **ʒ**, or the **ʒ** to the **ʒ**.

3d. That the English language, whilst omitting the two sounds **ʒ** and **ʒ**, has, in addition to the remaining nineteen fundamental sounds, a great number of modifications, of which the following are the most important:

A. Intermediate vowels:

ʒ approaching to **ʒ**, as in *hawk*.

ʒ approaching to **ʒ**, as in *flat*.

ʒ approaching to **ʒ**, as in *bread*.

ʒ approaching to **ʒ**, as in *fir*.

ʒ approaching to **ʒ**, as in *hut*.

B. Double vowels, or diphthongs:

ʒ **ʒ** as in *aye*.

ʒ **ʒ** as in *boy*.

ʒ **ʒ** as in *I, night*.

ʒ **ʒ** as in *howl*.

ʒ **ʒ** as in *pure*.

C. Modifications of consonants:

ʒ modified in two sounds, as in *zeal*, or *peace*, and in *shield*.

ʒ modified in the consonant **Y**, as in *yea*.

The perpendicular series

ʒ } modified in { **V**, as in *veal*.
ʒ } { **W**, as in *well*.
ʒ } { **W H**, as in *what*.

The combinations of the consonants with each other, are not to be enumerated among the modifications, as they are not like the diphthongs formed by organic contraction, but by mere mechanical juxtaposition; although some of them are expressed by *one* letter in different languages. In English, for instance, we have the X, for the combination of *Æ* with *ſ*; the G, as in *gentle*, and the *ſ*, as in *jelly*, for the combination of *Ð* with the modification of *ſ*, represented by SH; in the same manner as the English CH, for instance in *chaff*, represents the combination of *Ɔ* with SH.

For fear of being too prolix, we have not noticed the finer shades of one and the same sound, which are peculiarly observable in the vowels; for instance, the short high *Ⓔ* in *not*, the long high *Ⓔ* in *nod*, and the deep *Ⓔ* in *note* and *node*; nor will our limits permit us to transcribe all the different representations, of which each of the sounds mentioned is capable in the English system of written signs on one hand, and on the other, to enumerate, along with each written character, all the different sounds which it serves to express. To give an example of each, the *sound* *Ⓐ* is represented by A in *father*, by AA in *bazaar*, by EA in *heart*, by AU in *aunt*, by E in *clerk*; whilst the *letter* A represents, besides the sound *Ⓐ* in *father*, its two modifications, one approaching to *Ⓔ* in *all*, the other to *Ⓔ* in *add*; and the sound *Ⓔ* in *ace*, with its modification approaching to *Ⓐ* in *vary*; not to mention the indistinct or effaced sounds, which it has in initial and final syllables, as for instance, in *about*, *Roman*, *cottage*, &c.

The incongruities between the sound and the written character, in which the English language abounds, and the difficulties with which the child is surrounded by the common plan of teaching spelling, will be still more strongly illustrated by analysing a few words, placing on one side the different sounds, and on the other, the different letters of which they are composed.

THING.

The vowel ɪ with one consonant Th before, and one con- sonant g after it.	Spell: <i>Tee, Aitch,</i> <i>Eye, En, Jee</i> ; thing; <i>Eye</i> is a vowel, the other four are conso- nants.
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RIGHT.

The diphthong ɛɪ , with one consonant R before, and one consonant T after it.	Spell: <i>Ar, Eye,</i> <i>Jee, Aitch, Tee</i> ; right; <i>Eye</i> is a vowel, the other four are consonants.
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AGE.

The vowel ɛ , with two consonants gh , and gh after it.	Spell: <i>Ai, Jee, Ee</i> ; age; <i>Ai</i> , and <i>Ee</i> are vowels, the <i>Jee</i> is a consonant.
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We will not multiply these illustrations, but leave it to the reader's imagination to fancy, how bewildered must be the ears and brains of a poor child, who is required to believe *bonâ fide*, that *Ar-eye-jee-aitch-tee*, sounds **ɪɛɪɛ**; or what notions of justice and intelligence he must form on finding himself repeatedly thumped for being "so stupid," as not to understand "so plain a thing." How much more obvious is it, to let the child first distinguish in the ear the sounds **ɪ**, **ɛɪ**, and **ɛ**, and to tell him afterwards, that one of the ways in which, in English, the sound **ɛɪ** is represented, is by the letters IGH. For this reason, spelling ought to be taught before writing or reading; that is to say, the knowledge of the written signs should not be imparted until the child has a clear perception of each sound, as it strikes the ear, and of the different combinations with other sounds of which it is capable. If this distinction between the instruction in sounds, and the instruction in letters, is not as strongly

insisted upon, as might be expected, by Pestalozzi himself, this must be attributed to the circumstance, that in the language to which his remarks apply, a much closer analogy is preserved between the sounds and letters, so that they may with less inconvenience be combined in teaching. Requesting our readers to bear this in mind, we now proceed with the extracts.

"The child is supposed to be acquainted with all the sounds of my spelling-book, from having had them repeated to him; the next step to be taken, is to make him pronounce those sounds, as distinct exercises, to be gone through several times each day, but with the same ease and playfulness with which children are generally made to imitate sounds: the only difference being, that the mother follows the regular course traced out for her in the spelling-book, instead of taking the sounds at random as they occur.

"The distinctive feature of my spelling-book is, that every exercise, throughout, is founded upon the vowels, to which the consonants are joined on, successively, before and after, and thus the different syllables produced by a systematic progress, which is calculated to give the child a clearer idea of their combination, and greater facility in pronouncing them, than by the plan usually adopted, it is possible for them to attain.

"The manner in which this spelling-book was composed, is as follows: I took the first vowel, and joined to it one consonant after the other, from b to z; thus I formed, at first, the simple and easy syllables, ab, ad, af, and so on; then I put before each of them such consonants as actually occur before them in our language; in the same manner I proceeded with other vowels; and, having gone through the different combinations arising out of the addition of one consonant, before or after the vowel, I formed more difficult syllables by the addition of more than one consonant at each end. In the course of these exercises, the simple combinations recurred again and again, in regular successions, which had the effect of impressing them more deeply on the mind, and, consequently, formed an excellent preparation for the instruction in reading.

"The advantages of this book are explained in the introduction to it, as follows:

"1. It dwells on the spelling of single syllables sufficiently long for the child to acquire practical facility in their pronunciation.

"2. It repeats the same combinations of sounds, so as to impress them lastingly on the mind, without rendering them tedious to the child; the addition of new sounds to those exercised before, giving to each repetition the charm of novelty.

"3. It enables children very rapidly to pronounce every new word, formed by the addition of a further consonant to syllables with which they are

already acquainted, without the toil of spelling it over; and it gives them so distinct a notion of the elements, of which each syllable is composed, that orthography is, afterwards, made extremely easy.

"Mothers are therefore invited to repeat those successions of sounds to their children several times a day, even before they are able to speak, and to vary the order in which they repeat them, so as to stimulate the attention, and, by the contrast of the different sounds with each other, to produce a distinct knowledge of the peculiar character of each. This repetition is to be renewed with double zeal when the children begin to speak, that by imitating those sounds they may the more readily develop their organs.

"In order to facilitate the knowledge of the written characters, which ought to precede the exercise of spelling, I have appended to the spelling-book an alphabet, in which the letters are of considerable size, so as to present their differences to the eye in a more striking manner.

"These letters are to be pasted, each separately, on stiff paper, and given to the child one after the other. The vowels are in red ink, to distinguish them from the consonants, and the latter are not to be taken in hand until the child be perfectly familiar with the pronunciation of the former.

"As soon as the children shall have acquired a sufficient knowledge of the letters, partly by having them presented singly, and partly by combining them in the spelling exercises which I am about to describe, it will be time to substitute for the above letters those of the second table appended to my spelling-book, on which the printed German letter (given on a smaller scale) is accompanied by the written German, and the printed Roman characters. A syllable having been spelt for the first time, by means of that character with which the child is already acquainted, he is made to repeat it in the two other characters, by which means he will soon be familiarized with them likewise.

"The principle on which all these exercises have been conducted, viz. 'that the basis of every syllable is the vowel, to which consonants are joined on, before and after,' is to be attended to, likewise, in the use of the paste-board letters. The vowel is to be laid down first; and, according to the succession of syllables in the book, consonants are to be added at the beginning and at the end, as, for instance: a, ap, pap, lap, &c. The same exercise may be performed by means of a spelling-tablet, hung up against the wall, with a groove at the top and at the bottom, in which the letters slide easily backwards and forwards.

"Each syllable spelt in this manner is to be pronounced by the teacher and repeated by the children, until it is indelibly impressed upon their minds. After this, the teacher asks for each letter separately, and independently of the order in which they stand, (the first? the third? &c. ;) and lastly, he covers one syllable after the other with his hand, and makes the children spell it from recollection.

"It is very essential, that the teacher should proceed slowly with these

exercises, and especially with those at the beginning, and that he should never proceed to any thing new before the children have attained a degree of perfection in the preceding lessons; for all the subsequent instruction in reading is to be entirely founded upon this course of spelling, by small and gradual additions.

"When the children begin to spell pretty easily upon this plan, the order of proceeding may, occasionally, be reversed. Thus, for instance, a word may be spelt by beginning at the first letter, and adding the others in the order in which they follow, the child having to pronounce the whole again after the addition of each single letter: f, fe, fen, fend, fende, fender. This being done, one letter after the other may be taken away, the child again pronouncing together those that remain each time; and the same exercises may be repeated until the children are able to spell the word, without the aid of visible letters, mentally. In the same manner the word may be began at the end, thus: r, er, der, nder, ender, fender.

"Another exercise is to divide the word into syllables, which the children are to count, to spell, and to pronounce, first in the order in which they stand, and then promiscuously as the teacher points them out.

"A great advantage is to be gained for the instruction of a large number of children in public schools, by accustoming the children, from the very beginning, to pronounce simultaneously whatever sound may have been repeated or pointed out to them by the teacher, so that all their voices together shall produce but one sound. By doing this in a stated measure, a large class is carried on with the same ease as a single pupil, and the effect produced upon the senses of the children is far more powerful.

"The exercises before mentioned being gone through on the spelling-tablet, or otherwise, with the pasteboard letters, the book itself is to be put into the child's hands as his first reading-book, and he is to continue in it till he has attained perfect facility in reading all the exercises."

The idea of such a reading-book is, notwithstanding Pestalozzi's recommendation, most *unpestalozzian*. Nothing can be more deadening to the mind than to read over and over again long columns of unconnected words, and partly even unmeaning syllables. As a specimen of the manner in which spelling-lessons may be turned to account as intellectual exercises, at that period of instruction, at which the knowledge of the sound is to be combined with that of the written character, we subjoin the following sentences, produced by a little boy five years old, under the disadvantage of solitary instruction, on such words of the series "one consonant before *AT*," as he could think of at the time. They are an exact copy from his writing-book, without any alteration:

A *bat* is a thing to hit balls up in the air.
 A *bat* is an animal with wings.
 A *cat* is an animal to catch mice.
 I like *fat* as well as lean.
 I have an old *hat*, and a new *hat*.
 There is a *mat* in every house.
 I *pat* Georgy's back.
 Georgy gives me tit for *tat*.
 I *sat* down in the chair yesterday.
 A *rat* is an animal *that* runs in old cupboards.
 A *gnat* is an insect *that* stings one.

All these sentences are, strictly speaking, original composition, without the aid of any leading-strings, as indeed the infantine character of some of them clearly evinces.

Considering the difficulties in which the instruction in spelling is involved, it will probably not be ungrateful to our readers to learn that we contemplate, at no very distant period, the publication of a manual of spelling, the object of which will be to afford to the teacher an easy survey of the materials of the English language, when viewed with reference to sound, by enumerating the leading sounds and articulations (vowels and consonants), with their different modes of expression by written characters, and exhibiting their different combinations in sets of progressive exercises. Of these, however, the general conditions only should be given to the children, and they left to find out, for themselves, the different combinations of each series which appear as words in the English language. To illustrate this by an example, suppose the intended exercise to consist in putting one consonant after the vowel-sound *æ*, as it is in *egg*. The spelling-book would furnish the teacher with a list of the different modes in which that sound is represented in the English language, with an example to each; thus:

A	as for example in	a man
A—E	- - - -	babe.
E	- - - -	bed.

ENGLISH SPELLING EXERCISES.

Ai	as for example in	<i>fail.</i>
Ay	- - - -	<i>pray.</i>
Ao	- - - -	<i>gaol.</i>
Ea	- - - -	<i>wear.</i>
Ei	- - - -	<i>veil.</i>
Eigh	- - - -	<i>weight.</i>
Ey	- - - -	<i>they.</i>
Aie	- - - -	<i>slaie.</i>

Independently of this general survey of the different representations of the sound *æ*, the spelling-book would contain, among others, a complete list of the combinations of this sound with one subsequent consonant, marking the different acceptations of each term.

- AIM. Shooters *aim* at birds.
Bad shooters miss their *aim*.
- EGG. The chicken creeps out of the *egg*.
- ACHE. } My teeth *ache*, or *ake*, sometimes,
AKE. }
- The ear-*ache* is more painful than the tooth-*ache*.
- AID. *Aid* one another.
A good book is an *aid* to the learner.
- ATE. } I *ate*, or *eat*, very little yesterday.
EAT. }
- EIGHT. Twice four make *eight*.
- AIT. An *ait* is much smaller than an island.
- EIGHTH. Two is the *eighth* part of sixteen.
- APE. The *ape* is a curious animal.
Boys like to *ape* men.
- ERE. *Ere* shall the heavens pass away, than the
righteous perish.
- AIR. Fresh *air* is essential to health.
The servant was told to *air* the sheets.
What a strange *air* he puts on.
- HEIR. The son is his father's *heir*.
- EYRE. The matter was decided in a court of *eyre*.
- AYR. The *Ayr* is a river in Scotland.
Ayr is the name of a town on the river *Ayr*.

- ELL. An *ell* is one yard and a quarter long.
 AIL. No one knows what his *ail* is.
 What should *ail* him?
 ALE. *Ale* is made of malt.
 ACE. The unit on cards or dice is called the *ace*.

This list, of course, is not intended for the children, but for the teacher; whose business it is to elicit from the children, by questions, such words of the series, as they can think of; and having ascertained what meaning the children connect with each word, to teach them the mode of writing it. Thus, suppose the children were in succession to name, and, by sentences of their own, to explain the following words; *ale, air, ape, ate, eight, ache, egg*; the teacher might write them on the lesson-board in this manner:

<u>A — E</u>	<u>AI —</u>	<u>EA —</u>	<u>EIGH —</u>	<u>E —</u>
A - L - E	AI - R	EA - T	EIGH - T	E - GG.
A - P - E				
A - T - E				
A - CH - E				

or, he might write them, at first, promiscuously, and ask the children, in each word, by what signs the sound *æ* is represented, and what signs are expressive of the consonant after it.

The same exercises should from time to time be reversed, by taking some consonant, and asking for a list of the different words formed by putting a vowel before it. Taking, for instance, the consonant *æ*, the following series would present itself: ARE, OR, OAR, ORE, AIR, ERE, AYR, HEIR, EYRE, EAR, ERR, IRE, OUR, HOUR, &c. &c.

It is not necessary to go into farther details, as the above is sufficient to show in what manner the relation between sound and written character is to be illustrated. For these exercises our manual will provide the teacher with tables, comprehending all the monosyllables of the English language; and, in a second part, a regular survey of the leading terminations of dissyllabic, trisyllabic, and other polysyllabic

words, as well as of the significant syllables used in the formation of derivatives and compounds.

As an appendix to this manual of spelling, a reading-book might be composed, containing at first short sentences, and afterwards larger pieces, in which, after some time, part of the letters, and at last whole syllables and words, should be omitted, so as to exercise the child's ingenuity in supplying them. A reading-book of this description would contribute very much to render the tedious operation of learning to read, both more rapid, and more interesting; but to make it successful, the reading pieces should not be selected at random, but with great care, and the omissions likewise should be introduced upon a systematic plan, corresponding in its progress with the arrangement of the exercises in the manual of spelling.

We shall close this chapter by a few remarks on the mode of teaching writing. Pestalozzi, in the abstract before us, distinguishes two stages:

"The first when the child is to learn the formation and combination of letters with the pencil merely; and the second when he is to practise his hand in the use of the pen.

"In the first course of writing the letters are to be laid before the child according to the precise measure of their proportions; and I have got a set of copies engraved, which, following the successive steps of my method, will almost of itself form a sufficient guide for the child in the practice of writing. It has the following advantages:

"1. The child is kept a sufficient time to the drawing of the elementary or fundamental lines of which the different letters are composed.

"2. These elementary lines are put together according to a gradual progress, in which the most difficult letters are placed at the end, and their formation is moreover facilitated by the previous practice of less difficult combinations, to which even the most complicated characters contain only slight additions.

"3. The exercise of combining different letters with each other is introduced from the very moment when the child is able to draw one correctly, and is calculated upon the progress in the formation of single letters, so as never to include any but those which have become individually easy and familiar.

"4. The book admits of being cut up in single lines, so that the child may place the copy immediately over the line in which he intends writing.

"In this manner the child learns to write with ease and perfection in the first course, and all that remains to be done in the second, is to teach him the use of the pen. This is to be done by the same gradual progress which was followed on the slate; the letters are to be drawn with the pen on the same enlarged scale which was adopted for the first attempt with the pencil, and to be diminished, gradually, to the usual size."

We do not think this mode of proceeding exactly the most desirable. The process of copying will, under all circumstances, and notwithstanding the most ingenious contrivances, always remain tedious. We have found it far preferable to give the child, in the first instance, a short word written on his slate in large printed characters, for instance

FAT,

and after this to place in a line underneath the leading points of the different letters, one by one, thus:

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leaving the child to fill up the intervening lines. This exercise, carried through a few of the earlier spelling series, in which each additional word contains only one new letter, soon familiarizes the child with the forms of the different letters; so that after some time he may be left to put the dots for himself: and lastly, to form the characters without dots. After this introduction to the art of writing, which we have also found the most efficient mode of teaching reading, we have never experienced the least difficulty in superadding the use of the written character, or inducing a familiar acquaintance with the small printed type. We need only add, that the above exercise in the formation of letters, is not the only one in which the child should, at this period of instruction, be called upon to draw lines between given dots, to measure and compare their distances, proportions, relative positions, &c., and we agree in this respect fully with our author in contending that

"the art of writing, to be taught consistently with nature, ought to be treated

as subordinate to that of drawing, and to all its preparatory acquirements, especially the art of measuring.

“Writing is no more, nay even less, than drawing, to be taught without a previous proficiency in the measuring of lines; for, in the first instance, writing itself is a sort of linear drawing, and that of stated forms, from which no arbitrary or fanciful deviation is permitted; and, secondly, the practice of writing, when acquired previously to, and independently of, drawing, spoils the hand and mars its freedom, by confining it to a few peculiar forms on a contracted scale, instead of cultivating in it a general ability for all forms. Another reason, why drawing ought to be taught before writing, is, that by the previous acquirement of drawing the formation of the letters is greatly facilitated, and all that time is saved which children generally spend in correcting bad habits, contracted by a long practice of bad writing, and substituting a good hand for the misshaped and incorrect characters to which they have been for years accustomed. But of all the arguments that may be urged on this subject, the most important is, that the child should learn to do every thing in perfection from its beginning, which he will not be able to do in writing unless this acquirement be built upon an elementary course of drawing. We cannot expect, indeed, that the child should evince energy and perseverance in attaining that perfection, which he ought to learn, at an early period, to consider as the standard of all that he does, unless we exercise his powers upon tasks, the correct and perfect accomplishment of which is possible, according to the measure of his capacity.

“Writing as well as drawing ought to be practised at first on the slate; for the child learns to handle the pencil neatly and correctly at a much earlier period than the pen. The use of the slate has, moreover, this advantage, that whatever may be wrong, can easily be effaced and corrected, whereas on the paper, where this is impossible, one ill-shaped letter generally leads to another. Hence it is that in looking over the pages of a copybook we find so frequently lines, in which a regular progression of bad writing can be traced from the beginning to the end.

“Another and a very essential advantage seems to me to be this: that on the slate the child effaces even that which is well done at the end of the lesson. The importance of this point will be felt when we consider the great value of modesty, and the immense injury which the child suffers, in a moral point of view, from being led or permitted to make the work of his hands an object of vain display.”

CHAPTER XXIV.

Method of Teaching the Mother-tongue—Pestalozzian Grammar.

It will be recollected, from what was stated in the twenty-second chapter, that Pestalozzi took rather a comprehensive view of the subject which is now coming under consideration. But although in his general outline of education he included in it almost the whole range of knowledge, his practical illustrations do not embrace much more than that part of it, which would, by the common consent of all, be classed under the head "language." They are appropriately introduced by a few remarks on the original purpose of language, and the object to be attained by it in education, which deserve to be transcribed, if it were for no other purpose than to urge the importance of a branch of instruction which has been too much neglected.

"The gift of speech was imparted to man by the Creator, as the means of elevating himself above the blindness of his sensual nature, and for successive generations it has been subservient to the development of his nobler powers and faculties. The teacher is to use language in the same manner for the education of his pupil, as Providence has used, and is still using it for the education of the human race. Through language the child is to be raised above the mere perception of the senses, above the mere animal impulse of appetite, and led to the consciousness of an immortal soul within himself. The general experience that the results of man's moral and intellectual life are so utterly inadequate to the native energy and the comprehensive variety of his mental constitution, is to be accounted for only by the circumstance, that, when left to himself, that is to say to the freedom of his own blindness, man pursues the course of his own education in a circuitous road, on which his observation cannot but be partial, and his progress slow. It is only from time to time, that, in looking behind him, he can perceive, too late for himself, the direct road which he has missed. But whilst nature has left man to this

freedom, she has given him, in language, the means of making the experience of past ages available, in every age, for the guidance of the generations to come. It is the teacher's business to trace out for his pupil that direct road, by which he may ensure to him, both a rapid progress and a comprehensive knowledge of things."

The course of nature in the development of language is farther pursued by Pestalozzi in the following manner:

"Language begins from the formation of sound, and proceeds from this to the creation of the word, and to the structure of the sentence. Nature has employed centuries to develop the power of speech in our species; whilst it is but the work of a few months for the child to acquire the results of that development. And yet, in teaching the child language, we ought to follow the same course which nature took. Nature undoubtedly began with intuition. The first simple sound by which man attempted to communicate the impression produced upon him by some object, was the expression of an intuition. The language of man was for a long period no more than an imitation with his voice, of the animate and inanimate sounds of nature, accompanied by pantomime. The pantomime led to hieroglyphics, and the sound to the word; still language was a mere designation of single objects by unconnected names. This state of language is beautifully expressed in Gen. ii. 19 and 20: "And out of the ground the Lord God formed every beast of the field, and every fowl of the air; and brought them unto Adam to see what he would call them; and whatsoever Adam called every living creature, that was the name thereof. And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field."

"From this point language gradually advanced: man began to observe the characteristic features of those objects to which he had given names, and to form words to designate their proportions, their actions, their powers. It was not until a much later period that he invented the art of modifying one and the same word according to number, time, and so on."

In this view of the subject our author has, as in many other instances, betrayed too much attention to the external facts of the case, and, consequently, fallen into errors which obstructed his progress, so far as it was possible, considering the experimental character of his pursuits. Above all, the passage from Genesis seems, in every respect ill chosen to support the supposition that the language of man arose from "an imitation of the animate and inanimate sounds of nature." When we consider that man was made a living soul, after the image of the Creator, which image he had not

yet lost at the period alluded to; it is difficult indeed to conceive that he should have been reduced to become the ape of creation, in the expression of his own thoughts and feelings. How much more consistent with his then condition is it to suppose that there was in his bosom a living voice, inspiring his mind with the ideal conception of that universe which was, as a reality, displayed before his eyes, and that the impulse of that voice, moving his organs of speech to outward utterance, was the originator and regulator of his language. We must not forget that the language of man, which is the expression of his being, must have been strangely affected by two subsequent events; the fall, which completely altered his internal state, as well as his outward position in the world, and the confusion of tongues at Babel, which put a stop to the universal validity of the existing signs of communication. Language, as it has since been, though it must of necessity bear some traces of its origin and primitive condition, cannot afford conclusive evidence as to its first creation, at a time when man himself was in an essentially different state. As regards the character of the names first given to the different objects in nature, there can be no doubt that they were expressive of the most characteristic features of those objects, as manifested to man in their appearance and their various motions. It was only to the living creatures that Adam gave names, and to them only when they were brought before him, that is to say, when their nature was displayed before him in action. The immoveable, i. e. apparently lifeless object, would have presented no inducement for language, which, in its first origin, can only be the result of a motion or action outwardly witnessed, or of an emotion, or wish for action, inwardly felt. The first bursting forth of the faculty of speech, is, therefore, a sentence, though it may be a sentence consisting of one word only, subject and attribute being as it were involved in one intuition, and, accordingly, in one sound. Thus, hearing the lion's voice, man would exclaim—"roars;" he sees the hare, and calls—"runs;" he perceives the bird, and says—"flies." The same

objects come again before him with different actions, in different positions; and the joint idea, gradually formed, of the whole being, calls for the creation of a noun, which, nevertheless, is often exclusively derived from the name of that striking action, by which the object first excited his attention. On the other hand, new objects come before him in the same position, with the same action; the same exclamation repeated, becomes the abstract name of that position or action, i. e. a verb. Hence it is, that in all primitive languages verbs are generally the roots, and nouns the derivatives; and that the most ancient form of the verb is not the infinitive, but according to the nature of the action, or the circumstances under which the verb was created, either the third person singular indicative present, or the second person singular imperative present. Thus it appears, that, contrary to Pestalozzi's supposition, the modifications of number, time, and so on, are coeval with the creation of the word itself. The fact is clear; when a verb is created, it is in consequence of a certain feeling or perception, which, as it stands modified by number, time, &c. in the consciousness of the person who creates the word, must inevitably impart the character of that modification to the term designated to express it. Suppose a savage wishes his companion to stop; the feeling which dictates a corresponding word to the organs of his voice, evidently involves the ideas of imperative, of present, of singular, of the person addressed, and the word, whatever it be, will not be the expression of the abstract idea of stopping, but will, of necessity, imply all the accessory ideas with which the act of stopping first presents itself to the mind. In the same manner if he behold his companion at a distance, and call out to him "come;" or if he present to him fruit, and add "take," it is obvious that in all such cases the expression used is not the drawling infinitive, but that short and strongly accented modification, the imperative.

The erroneous views which Pestalozzi took of the origin and development of language, betrayed him in practice into the mistake of deferring the formation of the sentence, which

is the very life of language, and ought to be the starting point of instruction, until a variety of exercises had been gone through with unconnected words. This is the more surprising, as it appears from the specimens he has given, that the end he had in view would have been much more easily and much better answered, if he had at once put them into the form of a sentence. The subjects of his exercises were to be taken from a book of "pictures for the earliest childhood," which, along with the "Mothers' Manual," described in the last chapter, was intended to facilitate the introduction of his method into the nursery.

"Those pictures," he says, "are selected with a view to present to the child's mind all the chief varieties of objects and their properties, so far as they fall within the reach of our five senses. As to those properties which become known to us only by the intervention of judgment and imagination, I exclude them from my plan of instruction at this period. I am aware that many words denoting such properties will necessarily be caught up by children from the conversation of others, which may have the advantage of setting their imaginations to work, and awakening their curiosity. For the express purposes of instruction, however, we should confine ourselves to such objects as are immediately perceptible by our senses, with a view to bring the child as early as possible to a clear and precise expression, in language, of whatever may be the result of his observations.

"I extract from the dictionary the names of such objects as distinguish themselves by any striking properties, the names of which I place along with those of the substantives; for instance:

"*Acorn*—Oval, green, brown, bitter.

"*Adder*—Poisonous, smooth, slippery.

"*Ale*—Strong, bitter, brown, sparkling.

"*Almond*—Brown, sweet, pointed, rough.

"*Amber*—Yellow, transparent, bright."

We have preserved in the translation the alphabetical order on which Pestalozzi's selection is founded: at the same time it is obvious that the nature of the objects would have suggested a much more instructive arrangement. It ought further to be observed, that the operation of enumerating the different properties of given objects is far more difficult than that of finding objects possessing a given property, which Pestalozzi introduces next in order.

"I afterwards invert this exercise, by selecting adjectives expressive of striking properties perceptible by our senses, and place by the side of them the names of objects to which they belong; for instance:

"*Round*—Ball, plate, moon, sun.

"*Light*—Feather, down, air.

"*Heavy*—Gold, lead, oak.

"*Warm*—Fire, summer-days, tea.

"*High*—Towers, mountains, trees.

"*Deep*—Sea, lakes, pits, mines.

"*Soft*—Butter, wax, snow.

"*Elastic*—Steel-springs, whalebone, strings.

"It is by no means my intention to make these tables complete, so as to preclude the child from an opportunity of discovering some things of himself. A few instances in each case are sufficient, and the teacher may immediately proceed to the question: 'What else do you know that is round, or light,' &c. The children generally find new examples within the sphere of their own experience, and very frequently such as the teacher would never have thought of; and being repeatedly called upon to give an account of their knowledge, they acquire a facility and distinctness of expression, which no Socratic conversations, unless conducted with an hundredfold degree of skill and labour, can ever produce."

It is difficult to understand how Pestalozzi could imagine that these exercises were rendered more elementary, that is to say, easier, by the apparent omission of the word "is;" apparent, we say, because his question, "What else do you know that is round?" necessarily includes that word, and because, if the child be called upon, as he ought, to connect the name of each object that occurs to him, with that of the property on which the exercise turns, the easiest and most obvious way to do this, is the insertion of the same word in the answer, which was used to denote that connexion in the question. It would be most unnatural for the child to say:

Round:—hat,

Round:—wafer,

Round:—saucer:

on the contrary, nothing is more natural than that he should say,

A hat is round,

A wafer is round,

A saucer is round, &c.

Thus it is clear, that instead of detaining the child in the enumeration of unconnected words for a period, which could not be short, if it be considered that the letters A and Z in the dictionary formed the limits within which the suitable substantives and adjectives were to be selected, the teacher ought at once to proceed to the formation of sentences, which our author describes as the "determination of the objects, their properties, and different states, according to time and other relations in which they are placed," and proposes to treat it in the following manner:

"This leads to the outline of a practical grammar, by the progressive exercises of which, the child is to be brought to the ultimate object of instruction, viz. perfect clearness of ideas. The first step of this instruction is to teach the child to speak correctly. This is not to be done, however, by the inculcation of rules; but by model-sentences, which the mother is to repeat to the child, and make him repeat after her, with the double view of cultivating his organs of speech, and acquainting him with the structure of sentences. These two objects are to be kept distinct throughout, and separate exercises to be gone through for their attainment; although the same sentences may, in both cases, be employed. The following are a few examples:

"Papa *is* kind.

"The butterfly *is* pretty.

"The cow *is* tame.

"The fir *is* tall.

"The child having acquired perfect ease in repeating these sentences, the mother asks: Who else is kind? What else is pretty? and *vice versé*: What else is papa? What else is the butterfly, &c.

"The following are a few specimens of other exercises of the same sort:

"Who or what, *are* what?

"Tigers are ferocious,

"Harts are swift.

"Roots are tough.

"Who or what, *has* what?

"The lion has strength.

"Man has understanding.

"The dog has a fine scent.

"The elephant has a trunk.

"Who or what, *have* what?

- "Plants have roots.
- "Fishes have fins.
- "Birds have wings.
- "Bullocks have horns.

"Who *wishes* what?

- "The hungry wishes to eat.
- "The creditor wishes to be paid.
- "The prisoner wishes to be free,

"Who *wish* what?

- "Sensible people wish, what is proper.
- "Foolish people wish, what they fancy.
- "Children wish to play.
- "The weary wish to rest.

Who *can* what? (singular.)

- "The fish can swim.
- "The bird can fly.
- "The cat can climb.
- "The squirrel can leap.
- "The ox can gore.
- "The horse can kick.

"Who *can* what? (plural.)

- "Tailors can stitch.
- "Donkeys can carry.
- "Oxen can draw.
- "Pigs can grunt.
- "Men can speak.
- "Dogs can bark.
- "Lions can roar.
- "Larks can sing.

"Who or what *must* what? (singular.)

- "The bird must eat.
- "The fish must swim.
- "The dog must follow.
- "The river must flow.
- "Rain must fall.
- "To-morrow must come.
- "The weather must change

"Who or what *must* what? (plural.)

"Hailstones *must* fall.

"Children *must* obey.

"The conquered *must* submit.

"Debtors *must* pay.

"The laws *must* be obeyed.

"In this manner I continue these exercises, both in the singular and plural, through the whole round of declensions and conjugations; and, with special reference to the verb, I continue as follows:

"First, I form the simple connexion between the verb and the object.

"*Attend* to the teacher's words.

"*Breathe* through the lungs.

"*Bend* a tree.

"*Bind* a sheaf, a stocking, &c.

"The next exercise adds a subject to the verb:

Attend. I attend to the teacher's words, to my duty, to my welfare; a person who *attends* to things is *attentive*, a person who does *not attend* to any thing, or only to a few things, is *inattentive*. I ought to *attend* to myself more than to any thing else.

"*Breathe.* I breathe lightly, heavily, quickly, slowly; I *breathe in* air."

This part does not admit of a complete translation, as the compounds of the German words for "to attend" and "to breathe," are also introduced, and there are not corresponding compounds in the English language. The following is a parallel example of an English verb.

I *form* a piece of clay into a cube. I *form* in my mind an idea of a horse. Father, mother, and children, *form* a family. Savages *deform* their bodies by cutting and painting their skins, and wearing large shells, pebbles, rings, &c. in their noses and ears. Vanity *deforms* the mind. I ought to *reform* myself every day. By cultivation man may *transform* waste places into fruitful gardens. The caterpillar *transforms* itself into a chrysalis, and the chrysalis into a butterfly. Never promise what you do not intend to *perform*. Never propose to yourself more than you are able to *perform*. I *perform* on the piano with my fingers. I *conform* to the wishes of my parents, to the dictates of my conscience. I *inform* myself by observing nature. My teacher *informs* me of what it is necessary for me to know. I ought to *inform* my parents of whatever fault I commit. I was *informed* that

my uncle would come to-day, but I find that I was *misinformed*.

The next exercises, mentioned by Pestalozzi, refer to "the gradual enlargement of sentences," as follows :

"I *shall*.

"I shall *preserve*.

"I shall preserve *my health*.

"I shall *not* preserve my health *by any other means*.

"*After all that I have suffered*, I shall not preserve my health by any other means.

"After all that I have suffered *in my illness* I shall not preserve my health by any other means *than temperance*.

"After all that I have suffered in my illness I shall not preserve my health by any other means *than the greatest temperance*.

"After all that I have suffered in my illness, I shall not *be able to* preserve my health by any other means than the greatest temperance *and regularity*.

"Each of these sentences is to be carried through the different persons of the two numbers.

"I shall preserve.

"Thou shalt preserve.

"I shall preserve my health.

"Thou shalt preserve thy health, &c.

"The same sentences may afterwards be translated into another tense, for instance :

"I have preserved.

"Thou hast preserved.

"I have preserved my health.

"Thou hast preserved thy health, &c.

"As these model-sentences will, in consequence of the various changes which they undergo, be deeply impressed upon the minds of the children, I take care to render them a source of instruction and improvement; and, therefore, select my subjects altogether from the sphere of juvenile life."

In the further pursuit of these "enlarged sentences," Pestalozzi proposes to elicit from the pupils descriptions or definitions of different objects and actions. Of this kind, he gives the following specimens:

"A bell is a hollow round vessel of cast metal, open at the bottom, mostly with the brim bent outwards: towards the top it grows more and more narrow, approaching the oval shape. It is generally suspended free in the air, with an iron tongue hanging down perpendicularly from the centre of

the top, which, when the bell is made to swing from one side to the other, strikes against the brim of the vessel, and thus produces the sound which is called the ringing of the bell.

"*To walk*, is to move on, step by step.

"*To stand*, is to rest the body on the legs, in a perpendicular position.

"*To lie*, is to rest the body on the ground, on the bed, &c. in a horizontal or nearly horizontal position.

"*To sit*, is to rest the body on a chair, form, &c. in a position in which it forms two angles.

"*To kneel*, is to rest the body on the legs bent in an angle at the knees.

"*To incline*, is to let the body down by a slight bend of the knee, which is often accompanied with a bow of the head.

"*To bow*, is to bring the body from a perpendicular into a curvilinear position, by a bend forwards, beginning at the head.

"*To climb*, is to move up and down a pole, tree, &c. by the aid of both hands and feet.

"*To ride*, is to be carried on the back of an animal, or in, or on, a carriage of any kind.

"*To fall*, is to come down by the power of gravity.

"*To dig*, is to cut out and take up a portion of earth with a spade, and turn it over to another place."

Some of these definitions, we fear, are like those in Johnson's Dictionary, or like the less learned ones on the lesson-boards of the British and Foreign School Society, a good deal harder to be understood than the word which they are intended to explain. To render exercises of this kind both instructive and interesting to children, they ought to be conceived in a different manner. To analyse, for instance, the idea of *riding*, the children should be asked: "On what do people ride?" The answer would be:

People ride on horses.

People ride on ponies.

People ride on donkies.

People ride on mules.

People ride on the top of coaches.

The coachman rides on the box, &c.

The next question would be: "And can you tell me *in* what people ride?" The children would answer:

People ride in stages.
 People ride in coaches.
 People ride in carriages.
 People ride in vans.
 People ride in carts.
 People ride in gigs, &c.

Then the teacher might inquire for the difference between *riding on a horse*, and *riding in a coach*; between *riding in a coach*, and *riding on the top of a coach*; and again he might ask, in what all sorts of riding are alike? By such questions as these, the children would by degrees be led to sum up the matter in the following general facts:

Riding is being carried.

The thing that carries you may be either an animal, or a carriage built by the hands of man.

If it be *an animal*, the rider always sits or stands *on* it.

If it be *a carriage*, the rider may sit or stand either *in* it or *on* it.

In the same way, instead of letting things "come down by the power of gravity," the teacher ought to ask:

Have you ever seen any thing *falling*?

What have you seen falling?

Answer: Stones, balls, &c.

Where was the ball before it fell?

Where was it after it fell?

Through what did it fall?

What was the cause of its falling?

If these questions be too difficult, it may further be asked:

Have you ever seen any thing up in the air which did not fall down?

Answer: Birds, feathers, clouds, &c.

What, then, is the reason that the bird does not fall down, but the stone does?

If the difficulty be still not removed, the analogous fact of a piece of wood swimming on the surface of water, whilst

the stone sinks in it, may be resorted to for illustration, until the pupils clearly perceive that the rising and falling depends upon the comparative weight of different substances. The idea of gravity, on the contrary, ought not to be introduced, except at a far more advanced stage of instruction, than that which these sentences suppose ; and even then, the word ought not to come in until the pupils have a perfectly clear idea of the nature and effects of attraction, on which the apparent property called gravity is founded, and which may be illustrated by the attraction which, for instance, a larger piece of wood or cork exercises on a smaller, when both are placed in a basin of water, and that which the borders of the vessel exercise upon both.

Such matters, however, as these, are in fact foreign to the subject of language ; they belong to those various sciences which Pestalozzi huddled together under that comprehensive head, "sound ;" but they and their descriptions, or definitions, ought to be removed to those provinces of knowledge, to which they respectively belong.

We shall close our extracts on this subject with a specimen of aphoristical instruction, which we feel persuaded would, if carried into effect, prove to maturer pupils as interesting as the conception is original and happy. "By way of a bequest to his pupils, to be published after his death," he intended to give "a series of fragments, in which, under the heads of the most important verbs, he would sum up the experience of his life, in reference to the actions, states, and relations, which they express." This idea, so truly characteristic of Pestalozzi, required however, to be realized, a calmer close of his career, than fell to his lot, and the Nasonian

"Tamen est laudanda voluntas."

applies to this as to many other vast projects of his fertile genius. In the volume before us he gives the following paragraphs in illustration of his plan :

"*Breathing.*

"On a breath hangs thy life, O man ! When thou breathest wanh

and vengeance, and convertest the pure air of heaven into poison within thy lungs, what else doest thou, but hasten the day when thou shalt be breathless, and the oppressed and afflicted shall be delivered from the fury of thine anger?"

"Tilling.

"The earth was divided that it might be tilled. Hence arose possession, the right of which ought ever to be subservient to its purpose, and should never be allowed to war against it. Sometimes the state grants to the possessor, or assumes for itself, as possessor, privileges contrary to that purpose; in which case the multitude, whose rights are curtailed, are by degrees driven to a state of feeling subversive of social order. This evil, when it has once taken place, can only be remedied by a return on the part of the monopolizing possessor, to the limits of that purpose for which God first gave the earth to man as his inheritance, and divided it among the families of the children of men."

"Expressing.

"It grieves thee that thou art not always at liberty to *express* thyself as strongly as thou wishest. Rejoice rather that thou art *repressed* now and then, and obliged, in spite of thyself, to be wise."

But although Pestalozzi had not himself an opportunity of executing this plan on as comprehensive a scale as he contemplated, and thus forming one of the most unique books, a sort of encyclopædia of practical life; we are somewhat indemnified for this loss by a publication which has recently appeared in Germany, and which came to our hands, almost at the moment, when the present chapter was going to the press. During that happy and hopeful period of Pestalozzi's life, which he spent with his earliest disciples in sketching out and preparing lesson-courses on the different "elementary branches," he committed a number of fragments connected with the instruction of the mother-tongue, to the hands of Kruesi, who has since his death, edited those of them which were intended to form part of his "bequest to his pupils," under the title "Paternal Instructions, in moral comments;

a bequest from Father Pestalozzi to his pupils." The strain in which they run, as well as the editor's filial veneration for the very idiom of Pestalozzi, are a sufficient guarantee that they have undergone no alteration beyond what the unfinished state of part of them rendered absolutely necessary; so that some few may appropriately be inserted here among our Pestalozzian extracts :

"Almsgiving.

"The best alms is that which enables the receiver to cease begging."

"Changing.

"Change, my child, change all that thou doest and performest, until thou have perfected it, and thou be fully satisfied with it. Change not thyself, however, like a weathercock with every wind ; but change thyself so that thou mayest become better and nobler, and that all that thou doest may be ever more excellent and perfect. No such change will ever cause thee to repent."

"Baking.

"Baking is, like all cooking, a fruit of human civilization. The savage knows of no preparation of his food ; he eats every thing raw, like the brutes, and, accordingly, he eats it, like them, with brutal greediness. A wise diet of meat and drink is only possible when the food is prepared by art, and it is then only that man can guard himself against the voracity of the animal. Baking, therefore, and every other sort of cooking, is a far more important business than it appears to be at first sight. It procures to us the most wholesome of all nutriments ; that bread which, as a common necessary of life, we daily ask of God, in the most sublime of all prayers."

"Bathing.

"By bathing we cleanse ourselves from bodily impurities ; the impurities of the soul, however, are not removed either by common or by consecrated water, but only by a renovation of mind in faith and love."

"Quaking.

"The most violent quaking, which causes houses and cities to fall in ruins, and which shakes even the foundations of the mountains, is that terrible convulsion of nature which we call an earthquake; but infinitely more terrible is the secret quaking of a guilt-laden soul, at the prospect of the inevitable discovery and punishment of its crimes."

"Beginning.

"The beginning of every thing precedes its existence and its continuation. The first day of creation was the beginning of the world. From the beginning God has set forth his almighty power, his wisdom, and goodness, in all that he has made. From the beginning, the hand of his providence has ordained the destinies of mankind; it has ordained thy destiny also, my child. Rejoice, therefore, and put thy trust in him, who is, and was, and shall be, the everlasting God."

"Bowing and Bending.

"Man, the only creature that carries his head so erect, should he never bow it? Verily, he does! For God has deeply impressed upon his heart the feeling of his weakness, and a reverential awe for all that is great and lofty. His head is involuntarily bowed down under the oppressive consciousness of his guilt. His eye sinks in gratitude before the savior of his life, his wife, his child. Verily, verily, it was no art that bent the knee of the first man who prostrated himself in the dust at the sight of the rising sun. It was God within him, who thus laid him low; and he rose more humanized in his feelings than if he had proudly faced its bright beam. But the work of God is defiled in the bowings and bendings of hypocrisy, by which human nature is as much degraded as it is elevated and ennobled by pious adoration, lowly modesty, and kneeling gratitude."

"Blossoming.

"Youth, thou season of blossoms, how fair art thou! But, remember, that thy charms are destined quickly to pass away. Thou canst not ripen, unless they vanish. Therefore, value thou the lasting fruits of life above the fleeting beauty of its blossoms."

"Thanking.

"Good men and good things, my child, cause joy to the man of pure

heart, even though he derive no benefit from them ; but when he is benefited by them, his joy is increased. He then seeks the author of all goodness and of all joy ; and when he has found him, his voice is drowned in the overflowing of his feelings. Tears glisten in his eyes. These, my child, are the thanks of the heart, which elevate and ennoble the soul. Whoever thanks not God, deserves not to be called man ; and whoever thanks not his fellow men, is unworthy of all the good which God bestows upon him through the hand of man.

"Thinking.

"Thinking leads man to knowledge. He may see and hear, and read and learn whatever he please, and as much as he please : he will never know any of it, except that which he has thought over, that which by thinking he has made the property of his mind. Is it then saying too much, if I say, that man, by thinking only, becomes truly man. Take away thought from man's life, and what remains?"

"Threatening.

"It is a misfortune if one man threaten another. Either he is corrupt who does it, or he who requires it."

"Failing.

"All men fail, and manifold are their failings. Nothing is perfect under the sun. But unless a man despise himself, he will not think lightly of any of his failings."

"Refining.

"Man wishes to have things not only good, but shining ; therefore is there so much refining in the world. Silver, gold, and steel, are polished ; the finest silk, the softest wool, the clearest cotton, the mellowest tints, the most exquisite fragrances, the most delicate sounds, the most delicious spices and the most luxurious pillows are preferred. But where human nature has attained the greatest refinement of sense, a man of nerve is hardly to be found. The highest degree of this refinement is generally the point from which the decline of individuals and nations takes its beginning.

"The builder who wishes to erect a durable structure, must do it with strong timber ; he must not, by sawing and planing, make his bearers and planks so thin as to render them unfit for the purpose for which they are intended. And in the same way, parents and teachers ought never to refine the children, nor governments the nations to such a point as to make them lose the strength of their limbs, the freshness of their cheeks, and the muscle of their arms."

"Darkening."

"The setting of the sun darkens the earth; and the failing of hope the soul of man. Why, then, is it that every hope of man is not daily renewed like that of the rising sun. It is well that he should not for ever set his hope upon outward things; but seek his repose and his happiness within himself, in those things which do not rise and set daily like the sun of this earth."

"Hoping."

"Hoping and waiting make many a fool. And are we, then, not to hope at all? How unhappy would man be without that beam of hope, which in suffering and sorrow sheds light through the darkness of his soul. But his hope must be intelligent. He must not hope where there is no hope. He must look at the past with a steady eye, in order to know what he may hope of the future."

So far Pestalozzi's bequest. We shall now proceed to sketch out the course which, with particular reference to the English language, we deem it most advisable to pursue in the instruction of the mother-tongue. We suppose the pupil when entering upon it, to have acquired that general idea of the expression of facts in language, which the exercises of the mother's manual will have given him, and if at the same time he have been properly exercised in spelling and writing, he may also be presumed, after three or four months' instruction about the age of four years, to be conversant with the structure of the easier words, and the manual operation of forming the letters, so far as to be in ordinary cases independent of the teacher. Being so prepared, he should be introduced to a succession of exercises for the formation of sentences, beginning with the simplest sentence "*I am,*" and leading gradually on to the most complicated constructions of which the language admits. Every part of speech, every form of the noun, verb, &c. should find its place in this course, so as to lead the child practically through all those elements and relations of language, of which the grammar offers definitions, explanations, rules, &c.; but with all this, no key to a real knowledge of their nature and of their

bearing upon each other. To concentrate the attention of the pupil, and to insure to him the advantage of a more immediate and correct apprehension of the fact which he expresses, he himself, expressed as *I* or *me*, should, during the whole of this course, form the subject or object of his sentences. At first, these sentences ought to contain only the subject *I*, with one of the four sorts of attributes, as follows:

- First attribute: I am a boy.
 I am a pupil.
 I am a child, &c.
- Second attribute: I am happy.
 I am merry.
 I am idle.
 I am diligent, &c.
- Third attribute: I walk.
 I run.
 I read.
 I write.
 I eat.
 I drink, &c.
- Fourth attribute: I am taught.
 I am amused.
 I am fed.
 I am clothed.
 I am dressed.
 I am washed, &c.

It is hardly necessary for us to state that the terms *subject*, *attribute*, *object*, and others of the like kind, are here made use of for the sake of brevity, but that they must not be introduced into the lessons, where their place is to be supplied by a model sentence of that sort which, at the time, is the subject of instruction. After the pattern of that model sentence, the pupil is to form others of the same kind from his own experience and knowledge of himself; and this having been done to a sufficient extent, they are to be enlarged by the addition of objects, first without, and afterwards with, prepositions. For instance:

Without preposition.

- First attribute: I am God's creature.
 I am my father's son.
 I am my sister's brother.
- Second attribute: does not occur in English.
- Third attribute: I hear noise.
 I see colors.
 I feel the fire, &c.
- Fourth attribute: I am taught spelling.
 I am shewn pictures.
 I am told stories, &c.

With prepositions.

- First attribute: I am a coward with dogs.
 I am a lover of fish.
 I am a player on the piano, &c.
- Second attribute: I am kind to my brother.
 I am weary of thinking.
 I am sleepy at night, &c.
- Third attribute: I write with a pencil.
 I write on a slate.
 I read in a book, &c.
- Fourth attribute: I am sent into the garden.
 I am taken by the hand.
 I am led through the streets, &c.

In this part of the course it is necessary to observe that the prepositions are to be taken one by one, each forming the subject of a separate exercise; and, likewise, that in order to proceed from easier to more difficult tasks, the whole of the exercises on objects ought to be gone through first with the third, next with the fourth, then with the second, and lastly with the first attribute. The manner in which this is to be done, and the effect which it has in fostering thought in the child, we cannot illustrate better than by inserting some of the strings of sentences produced by a little boy of five years old, who had no farther assist

than that the preposition on which the exercise was to turn, was named to him.

Behind.

I stand behind the chair.
I creep behind the house.
I walk behind St. Pancras church.
I peep behind the door.
I dance behind my papa's back.
I dig behind the currant bush.
I crawl behind the spinach-bed.
I suck behind my teeth.
I swallow behind my tongue.
I kneel before the flower-stand.
I sit behind the table.

Through.

I jump through the rails.
I search through the room.
I rout through the box.
I breathe through the nose.
I see through the window.
I mark through the paper.
I go through the doorway.
I run through the gateway.
I read through the book.
I walk through the garden.
I creep through the bedroom.

For.

I ask for a slate-pencil.
I jump for joy.
I run for fun.
I go out for pleasure.
I sleep for rest.
I live for goodness.

I eat for living.
I play for merriness.
I read for myself.

Throughout.

I puzzle throughout my life.
I search throughout my box.
I write throughout my book.
I write throughout my lesson.
I sing throughout a song.
I read throughout a book.
I search throughout a book.
I walk throughout the house.
I run throughout the garden.
I idle throughout the day.
I sin throughout the day.

Within.

I laugh within myself.
I think within my head.
I repent within my soul.
I swallow within my throat.
I recollect within my mind.
I hear within my ear.
I remember within my mind.
I cry within my heart.
I breathe within my body.
I reflect within my mind.
I sleep within the clothes.
I stand within reach.

All the prepositions having been gone through in this manner, singly, several objects, with and without preposition ought to be combined in the same sentence, of which a few examples will suffice, by way of model sentences, each forming the head of a distinct exercise:

One object with, and one without a preposition.

I drive the bunnies *into* their cage.
I keep my books *in* my desk.
I finish my lesson *within* the hour.
I see the soldiers *through* the window.
I watch myself *throughout* the day.
I send a letter *to* my mamma.
I show kindness *towards* my brother.
I see a bird *near* the window.
I warm my hands *at* the fire.
I reach the steps *before* my brother.
I take a walk *after* dinner.
I place my chair *behind* the table.
I put my book *on* the shelf.
I lead my brother *up* the staircase.
I seat myself *upon* the form.
I throw the ball *over* the wall.
I keep my head *above* water.
I carry my boots *down* stairs.
I put my head *under* the blanket.
I keep my hands *below* the table.
I find violets *beneath* the shrubs.
I make much ado *about* nothing.
I see a barge *beyond* the bridge.
I make fun *among* my playfellows.
I lose time *between* my lessons.
I pull currants *off* the bushes.
I call my brother *from* the window.
I send a message *by* my papa.
I cut pencils *with* a penknife.
I eat bread *without* butter.
I gather shells *for* my brother.
I knock my head *against* a wall.
I think every day *of* my mamma.

Two objects with prepositions.

- I walk *down* stairs *into* the garden.
- I stand *in* the room *near* the window.
- I consider *within* myself *about* the matter.
- I peep *through* the window *at* my brother.
- I speak *to* my papa *from* the garden.
- I play *behind* the house *before* dinner.
- I run *up* the hill *after* my companions.

One object without, and two with prepositions.

- I write my lessons *with* a pencil *on* paper.
- I pour water *out* of the jug *into* the basin.
- I hold the bunny *with* great care *by* his ears.
- I have a run *round* the garden *before* dinner.
- I send a letter *to* my mamma *through* the post.
- I play ball *in* the garden *during* summer.

In this manner the combination of different objects may be continued to any extent, accordingly as the time will permit, and the interest is kept up. After a sufficient number of sentences has been constructed with each of the four attributes in the order before mentioned, another series of similar exercises should be gone through, in which the I instead of holding the place of subject, is to form the object, either by itself, or combined with others; for instance:

- My papa loves me.
- My brother writes *to* me.
- My sister talks *of* me.
- The dog barks *at* me.
- The boys throw snowballs *after* me.
- My brother plays *with* me *in* the garden, &c.

Another branch of this course is the combination of several attributes by conjunctions, for instance:

- I run *and* jump.
- I am *both* good *and* happy.
- I am awake, *not* asleep.

I am idling *and not* working.
 I am cheerful *but not* unruly.
 I am *not* ill, but *tired*.
 I run *or* walk.
 I am *either* sitting *or* standing.
 I *neither* rejoice *nor* mourn.
 I am cheerful, *though* suffering.
 I am *though* short *yet* strong.
 I am a runner *though not* a good one.
 I am lazy *as well as* tired.
 I am delighted *as much as* surprised.
 I am *more* encouraged *than* reproved.
 I am merry *rather than* happy.
 I am *not* a driver *any more than* a rider, &c. &c.

In the same manner several objects may be combined by conjunctions :

I learn Greek *as well as* Latin.
 I write letters *though not* with pleasure.
 I run *either* in the garden *or* in the park.
 I drink tea *rather than* coffee.
 I know *neither* Dutch *nor* Spanish.
 I like bathing *but not* in cold weather.
 I enjoy a game in the garden *more than* in the house, &c.

or both attributes and objects may be multiplied and combined :

I plant flowers *and* root out weeds in the garden.
 I drink tea *and* eat bread *and* butter every morning *and* evening.
 I write *and* read Greek *and* Latin words *and* sentences every day.
 I sit *and* muse over my lessons, *not* without success.
 I know the rule *but* do *not* understand the reason.
 I *neither* see the bird *nor* hear his song.

Lastly, the combination by conjunctions may be extended to the subjects, still within the limits of a simple sentence; for instance:

I *and* my brothers walk *or* ride every day.

I *and* my schoolfellows hunt *and* catch insects throughout the summer, *but* not in winter.

Neither I *nor* James can skip *and* run across the fields *and* up the hills *as well as* John *or* Tom, &c. &c.

It is very obvious that the more perfect the order in which these exercises are performed, the more clearly will the different laws of grammar, which they serve to illustrate, present themselves to the mind; and the exercises which have been pointed out, ought therefore, to be subdivided under a great number of heads, which, to enumerate here, would far exceed our limits. We should, however, not omit to state, that a great part of the benefit to be derived from these lessons will depend upon the degree of clearness with which the different parts of the sentence present themselves to the mind, for which purpose they ought to be written in separate lines, and when it is necessary, the order of the parts reversed, in the following manner :

I
am a boy.

I
am happy.

I
walk.

I
am taught.

am I son
my father's.

I
hear
noise.

I
am taught
spelling.

I
am a coward
with dogs.

I
am unkind
to my brothers.

I
write
on the slate.

I
am sent
into the garden.

I
drive
the bunnies
into their cage.

I
walk
down stairs
into the garden.

I
write
my lesson
with a pencil on paper.

My brother
plays
with me in the garden.

I
run — *and* — jump.

I
am good — *both and* — (am) happy.

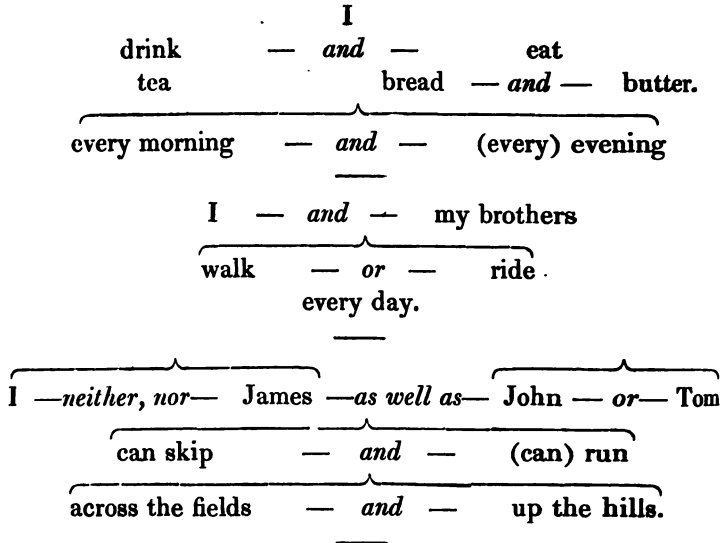
I
am idling — *and not* — (am) working.

I
learn
Greek — *as well as* — Latin.

I
like
bathing
but not
in cold weather.

I
enjoy
a game
in the garden — *more than* — in the house.

I
plant — *and* — root out
flowers weeds
in the garden.



This course, when completed, ought to be followed by a second, having for its object to illustrate the different tenses and moods of the verb, and the combination of simple into compound sentences. A few examples, by way of illustration, will suffice. Suppose the lesson to turn upon the conjunction *before*, the teacher would give the following model-sentence:

I mended my pen, before I wrote my lesson.

After this pattern the pupils would have to form a number of analogous sentences, such as these :

I washed my hands, before I ate my dinner.

I brushed my clothes, before I left my bedroom.

I scraped my shoes, before I entered the house.

and so on.

The next exercise would be, to propose the transposition of all these single facts, into general rules of conduct in this manner:

I mend my pen, before I write my lesson.

I wash my hands, before I eat my dinner.

I brush my clothes, before I leave my bedroom.

I scrape my shoes, before I enter the house.

The same sentences may be changed again, in another manner, by inverting their order and putting *after*, instead of *before*; thus:

I wrote my lesson, after I had mended my pen.

I ate my dinner, after I had washed my hands.

I left my bedroom, after I had brushed my clothes.

I entered the house, after I had scraped my shoes.

or more emphatically:

I did not write my lesson, until I had mended my pen.

I did not eat my dinner, until I had washed my hands.

I did not leave my bedroom, until I had brushed my clothes.

I did not enter the house, until I had scraped my shoes.

or, again in the way of general rule:

I do not write my lesson, until I have mended my pen.

I do not eat my dinner, until I have washed my hands.

I do not leave my bedroom, until I have brushed my clothes.

I do not enter the house, until I have scraped my shoes.

Another sort of exercise might then be performed, by writing the different variations of any one of the above sentences alongside each other, and questioning the pupils upon them. For instance, let the following sentences be written down:

1. I mended my pen, before I wrote my lesson.
2. I mend my pen, before I write my lesson.
3. I wrote my lesson, after I had mended my pen.
4. I did not write my lesson, until I had mended my pen.
5. I do not write my lesson, until I have mended my pen.

The teacher might then ask:

What difference is there between the first and the second sentence?

In which parts of the sentence does this difference appear?

What difference is there between *mended* and *mend*?

What difference is there between *wrote* and *write*?

What difference is there between the meaning of *mended*, and the meaning of *mend*?

What difference is there between the meaning of *wrote*, and the meaning of *write*?

What difference is there between the meaning of the first and that of the second sentence?

Give me some words expressive of time, which might be inserted in the first sentence?

Give me some words expressive of time, which might be inserted in the second sentence?

Suppose, to the former of these questions, the pupils had replied *to-day*, *yesterday*, to the latter *always*, *often*; the teacher would have the following questions to put:

How would the first sentence read by inserting *to-day*?

To which part of the sentence does the word *to-day* belong?

And to which word in that part more particularly?

Would the meaning of the sentence be the same as before?

Would there be an addition or an alteration?

Could you insert the word *to-day* in the second sentence?

How would the sentence then read?

To which part of the sentence does the word *to-day* here belong?

And to which word in that part more particularly?

What difference is there between the meaning of the second sentence as it stood before, and as it now stands with *to-day* in it?

Is that an addition or an alteration?

What other word did you say that you could insert in the first sentence, besides *to-day*?

How would it read then, by inserting *yesterday*?

To what part of the sentence, and to what word of that part does *yesterday* belong?

Does it make any alteration in the meaning of the sentence, or only an addition to it?

Could you insert the word *yesterday* in the second sentence?

Why not?

What word did you say you could insert in the second sentence?

How does it read, then, with the word *always* in it?

To what part of the sentence, and to what word in it does the word *always* belong?

What difference is there between the meaning of the second sentence, as it stood before, and as it now stands with the *always* in it?

Is this difference an alteration of the meaning, or an addition to it?

Could you insert the word *always* in the first sentence?

How would it read?

To what word does the *always* here belong?

In what part of the sentence is that word?

What difference is there between the meaning of the first sentence as it stood before, and as it stands now, with *always* in it?

What do you call this difference?

And so on, till the children have a perfectly clear view of the meaning of these two sentences, both when taken separately, and when compared to each other.

Other sets of questions would bear upon the difference between *before*, and *after*, the preservation of the natural order of facts with the former, and the inversion of it with the latter, the change of *I mended*, into *I had mended*, and so on. But enough has been said, to shew in what manner the subject ought to be handled, in order to impress upon the mind with all the power of a living interest, that which the grammar gives in unintelligible definitions and unpalatable rules. The cultivation of language would then become, as it ought to be, subservient to the cultivation of self-knowledge, self-command, and self-improvement; and to a teacher, not quite asleep to his task, a wide field would be opened for intellectual and moral influence.

Before concluding this Chapter we should add, that there ought to be another course, running parallel throughout, as regards the structure of the sentences, to that above described, the only difference being, that while the one is concentrated upon the pupil himself as the object of his thought

and language, the other course would suggest subjects from the whole range of creation, a selection being made for that purpose of the most suitable verbs, adjectives, and substantives, which might be arranged under different heads, according to the nature of the actions, properties, and things, which they represent.

Finally, to make the instruction in the mother-tongue complete, there should be put into the pupil's hands a selection of national literature, from the time, at least, when the language had accomplished its transition from the Norman to the English idiom. Such a selection, made on a sufficiently extensive scale, and accompanied by a history of literature, and short biographical notices of the different writers from whose works it contained extracts, would be of immense service to the cause of education. It might contribute powerfully to emancipate the rising generation from the Lilliputian fetters of a nerveless age, and reinitil into national life some of that genuine patriotism, and that manly frankness, which, in our polite days, is hardly tolerated, except on the pages of an historical novel.

CHAPTER XXV.

Method of teaching Number—Arithmetic.

IN this calculating world shall we be understood, if we say that Pestalozzi's arithmetic had no reference to the shop or the counting-house; that it dealt not in monies, weights, nor measures; that its interest consisted entirely in the mental exercise which it involved, and its benefit in the increase of strength and acuteness which the mind derived from that exercise? Again, in this mechanical, sign-loving age, shall we be understood, if we say that his arithmetic was not the art of handling and pronouncing ciphers, but the power of comprehending and comparing numbers? And, lastly, with a public whose faith is exclusively devoted to what is immediately and palpably "practical and useful," shall we be believed if we add that, notwithstanding the apparently unpractical tendency of Pestalozzi's arithmetical instruction, he numbered among his pupils the most acute and rapid "practical arithmeticians?"

Such, however, was the case; his course of arithmetic excluded ciphers until numbers were perfectly understood, and the rules of reduction, exchange, and others, in which arithmetic is applied to the common business of life, were superadded at the close of his arithmetical course, as the

pupil's future calling might require it. The main object of his instruction in this branch of knowledge was the development of the mental powers; and this he accomplished with so much success, that the ability which his pupils displayed, especially in mental arithmetic, was the chief means of attracting the public notice to his experiments. In his letters to Gessner, he gives the following account of his views and proceedings on this subject:

"This science arises altogether out of the simple composition and separation of units. Its fundamental formula is this: 'One and one are two;' 'One from two remains one.' Any number, whatever be its name, is nothing else but an abridgment of this elementary process of counting. Now it is a matter of great importance, that this ultimate basis of all number should not be obscured in the mind by arithmetical abbreviations. The science of numbers must be taught so as to have their primitive constitution deeply impressed on the mind, and to give an intuitive knowledge of their real properties and proportions, on which, as the groundwork of all arithmetic, every farther proficiency is to be founded. If that be neglected, this first means of acquiring clear notions will be degraded into a plaything of the child's memory and imagination, and its object, of course, entirely defeated.

"It cannot be otherwise. If, for instance, we learn merely by rote: 'three and four make seven,' and then we build upon this 'seven,' as if we actually knew that three and four make seven; we deceive ourselves; we have not a real apprehension of seven, because we are not conscious of the physical fact, the actual sight of which can alone give truth and reality to the hollow sound. It is the same in all departments of human knowledge. In drawing, for instance, if there be no reference to the art of measuring, from which it arises, the internal reality of the operation is lost, and it ceases to be a means of leading our mind to clear ideas.

"The first impressions of numerical proportions should be given to the child by exhibiting the variations of more and less in real objects placed before his view. My first arithmetical exercises are, therefore, derived from 'the Mother's Manual.'* The first tables of that book contain a series of objects, in which the ideas of one, two, three, &c. up to ten, are distinctly and intuitively presented to his eyes. I then call upon him

* For an account of the Mother's Manual, see Ch. xxii. from page 224-226; and, for the details of the exercises, which serve as introduction to the arithmetical course, see the *Christian Monitor and Family Friend*, pp. 40 and 41.

to pick out in those tables the objects which occur in the number one, then those which are double, triple, &c. After this I make him to go over the same numbers again on his fingers, or with beans, pebbles, or any other objects which are at hand. He is still more deeply impressed by repeating them a hundred times a day on the spelling-tablet,* first dividing each word into its syllables, and then asking: 'how many syllables has this word?' 'what is the first, the second, the third?' 'how many letters in the first, second, third syllable?' &c. In this manner children are made perfectly familiar with the elements of number; the intuitive knowledge of them remains present to their minds while learning the use of their abridgments, the ciphers, in which they must not be exercised before that point be fully secured. The most important advantage gained by this proceeding is, that arithmetic is made a foundation of clear ideas; but, independently of this, it is almost incredible how great a facility in the art of calculating the child derives from this intuitive knowledge. Experience has proved, that if the beginnings seemed involved in difficulties, it has only been because full effect was not given to this method; and it will, therefore, be necessary for me to enter farther into the details of the means which I have adopted.

"I have already mentioned, that the spelling-tablet is made use of for teaching arithmetic, each letter-square representing an unit. At the same time at which the children are introduced to the knowledge of the letters, they are led to observe their numerical proportions. A square is put up, and the teacher asks: 'Are there many squares here? Answer: No, there is but one. The teacher adds one, and asks again: 'One and one, how many are they?' Answer: 'One and one are two;' and so on, adding at first by ones, afterwards by twos, threes, &c.

"After the child has in this manner come to a full understanding of the composition of units up to ten, and has learned to express himself with perfect ease concerning each particular case, the squares are again put on the tablet in the same manner, but the question is changed: 'If there are two squares, how many times have we one square?' The child looks, counts, and answers correctly: 'If there are two squares, we have two times one square.'

"The child having thus distinctly and repeatedly counted over the parts of each number up to ten, and come to a clear view of the number of units contained in each, the question is changed again, the squares being still put up as before. 'Two, how many times one is it? Three, how many times one?' &c.; and again: 'How many times is one contained in two, three,' &c. After the child has in this manner been introduced to the simple

* This spelling-tablet is an apparatus, on which the letters, fixed on separate little squares of pasteboard, can be made to slide in and out; and thus words and sentences are composed by children, before their hand has acquired sufficient ability for writing.

elements of addition, multiplication, and division, and become conversant with their nature by the repeated representation of the relations which they express, in visible objects, subtraction is to be exercised upon the same plan, as follows: The ten squares being put up together, the teacher takes away one of them, and asks: 'If I take one from ten, how many remain?' The child counts, finds nine, and answers: 'If you take one from ten, there remain nine.' The teacher then takes away a second square, and asks: 'One less than nine, how many?' The child counts again, finds eight, and answers: 'One less than nine are eight;' and so on to the end.

"This exemplification of arithmetic is to be continued in successive exercises, and in the manner before described. For instance:

|	| |	| |	| |	&c.
|	| | |	| | |	| | |	&c.
|	| | | |	| | | |	| | | |	&c.

"As soon as the addition of one series is gone through, the subtraction is to be made at the same rate, thus: having counted together one and two make three, and two make five, and two make seven, and so on up to twenty-one squares, the subtraction is made by taking away two squares at a time, and asking; 'two from twenty-one, how many are there left?' and so on.

"The child has thus learned to ascertain the increase and diminution of number, when represented in real and moveable objects; the next step is to place the same successions before him in arithmetical tables, on which the numbers are represented by strokes or dots."

These tables have since fallen into disuse, and various sorts of apparatus have been substituted in their place; such, for instance, as the ball frame, well known in this country as part of the outfit of infant schools. For the sake of illustration, however, we add, on the other side, a representation of the original table* which, executed on a sufficiently large scale, might still form a useful implement on the wall of the school-room, if it was for no other purpose than to induce the habitual intuition of the first hundred numbers, in decimal series.

* For specimens of the exercises to be performed by means of this numerical table, see the "*Christian Monitor and Family Friend*," Part IV. p. 18.

PESTALOZZI'S NUMERICAL TABLE.

PESTALOZZI'S NUMERICAL TABLE.

The image displays a table of 10 rows, each containing 100 vertical bars. The bars are arranged in groups of 10, with each group representing a number from 1 to 100. The first row shows 10 groups of 10 bars each, representing the numbers 1 through 100. The second row shows 10 groups of 10 bars each, representing the numbers 101 through 200. This pattern continues for the remaining rows, with the final row representing the numbers 901 through 1000. The bars are arranged in a way that they are easy to count and group, with each group of 10 bars representing a single unit of 10.

"These tables," continues Pestalozzi, "on which the child is still calculating in real numbers, answer the same purpose as my spelling-book for the exemplification of sound in words exhibited on the slate. When the child has been exercised in this intuitive method of calculation as far as these tables go, he will have acquired so complete a knowledge of the real properties and proportions of number, as will enable him to enter with the utmost facility upon the common abridged modes of calculating by ciphers. His mind is above confusion and trifling guesswork; his arithmetic is a rational process, not mere memory work, or mechanical routine; it is the result of a distinct and intuitive apprehension of number, and the source of perfectly clear ideas in the farther pursuit of that science.

"But the increase and diminution of things is not confined to the number of units; it includes the division of units into parts. This forms a new species of arithmetic, in which we find every unit capable of division and subdivision into an indefinite number of parts.

"In the course before described, a stroke representing the unit, was made the intuitive basis of instruction; and it is now necessary, for the new species of calculation just mentioned, to find out a figure which shall be divisible to an indefinite extent, and yet preserve its character in all its parts, so that every one of them may be considered as an independent unit, analogous to the whole; and that the child may have its fractional relation to the whole as clearly before his eyes, as the relation of three to one, by three distinct strokes.

"The only figure adapted to this purpose is the square. By means of it the diminution of each single part, and the proportionate increase of the number of parts by the continued division and subdivision of the unit may be made as intuitively evident as the ascending scale of numbers by the addition or multiplication of units. A fraction table has been prepared, counting eleven lines, with ten squares in each line. The squares of the first line are undivided, those of the second divided in halves, those of the third in thirds, &c.

"This table is to be followed up by others, in which farther subdivisions are introduced in the following order. The squares which, in the first table, were divided into halves, are now divided into 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, parts; those in the third line into 3, 6, 9, 12, 15, 18, 21, 24, 27, and 30.

"Now as the alphabet of forms is chiefly founded upon the division of the square into its parts, and the above fractional tables serve to illustrate the same division in a variety of manners, the alphabet of forms, and that of fractions, prove in the end the same; and the child is thus naturally led to connect in his mind the elements of form with those of number, both explaining and supporting each other.

"My method of arithmetic is therefore essentially founded upon the alphabet of forms, which was originally intended only for the purposes of measuring and drawing.

"By means of these fractional squares, the child acquires such an intuitive knowledge of the real proportions of the different fractions, that it is a very easy task, afterwards, to introduce him to the use of ciphers for fractional calculation. Experience has proved, that by my method they arrive at this part of arithmetic from three to four years earlier than by the usual mode of proceeding. And it may be said of this, as of the former course, that it sets the child above confusion and trifling guesswork, his knowledge of fractions being founded upon intuitive and clear ideas, which give him both a desire for truth and the power of discovering and realizing it in his mind."

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The question then arises: if the repetition of units be not the source from which the knowledge of numbers is to be derived, whence shall we obtain it? If "one and one are two," be not the fundamental formula, what is it? The answer to this question is given in what might appropriately be termed the generic power of number, or the power of every number,* to produce out of itself an indefinite series of numbers, in such order that the number attained by every operation is superior to those, the knowledge of which is requisite for performing the operation. The idea of two, for instance, suffices for the operation of taking two twos; the result of which is the number four. The same idea of two again suffices, strictly speaking, for the operation of taking two two-twos; and even a quibbler cannot trace in it the idea of a higher number than three; a number far inferior to the result of the operation, which is eight. Here it is quite evident, that from the idea of two, the mind is led to that of eight, whereas by the eightfold repetition of units the mind is, in fact, only led from the idea of eight, to the idea of eight, that is to say, left exactly where it was before. Instead of the formula "one and one are two," or in other words, "two ones are two," or "two is two;" we have the formula $a \times a = b$.

The next question which presents itself, is: But whence do we get the a , which by its generic power produces the b ; where does the idea *two* come from? Without entering upon "the metaphysics of number," we have a right to assume the fact, that the mind has a primitive idea of two; since that fact is clearly established by the very possibility of

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conceiving the formula "one and one." The great facility with which the mind generally follows the repetition of units to a further extent, one and one and one; one and one and one and one; one and one and one and one and one; might go some way to justify the assumption that there are primitive ideas of other numbers, for instance,—exempting the four, which arises out of two,—three and five; but if this should be disputed as a mere hypothesis, it is easy to show that three and five also may be obtained simply by means of the idea "two." For if we have "two," and its first derivative, "four," and we divide the difference between them into two parts, one such part, either subtracted from four, or added to two, will produce the intermediate number three; which number itself deducted from eight gives the five; and in a similar way every other number might be obtained merely by the operation of the idea two.

But however this matter may be in theory, whether we assume primitive ideas of other numbers, besides two; or whether we derive all the others from two, which cannot be disputed to be a primitive idea; in practice it is quite certain that the child has in that part of his body which falls most under his notice, exemplifications of the three numbers: two, three, and five; there being two hands, on each hand five fingers, including the thumb, as it must be in the child's view, whatever may be the usage of our language; and each finger consisting of three joints. These three numbers, therefore, two, three, and five, will, at an early period, be known to the child, especially if his attention have been directed to them by the exercises of the mother's manual, which constitute the fourth section in Pestalozzi's arrangement.

The first step, then, in the instruction of number as a distinct branch of knowledge, should be to lead the child to represent those three numbers in visible objects, and to compare them with each other. For this purpose small cubes of wood are preferable to any other objects, and a few gross of them will supersede every sort of apparatus commonly in use. Being moveable at pleasure, they can be made use of for a

great variety of exercises, and give full scope to the child's own activity, while on the other hand their cubic form renders them best fitted for the illustration of the relation in which the powers of each number stand to each other. As soon as the child is able to handle a pencil, he should be directed to represent on his slate, by small strokes, or dots, the different sets of cubes which he has placed on the table. To give an example, if the child be called upon, to compare the three numbers two, three and five, with each other, he will set on the table first two cubes side by side, and then, in another row three. He will represent the same on his slate, as follows :

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How many ones more in three than in two?

How many ones less in two than in three?

In the same way the child should compare two and five; and three and five, and lastly the three numbers ought to be placed in one view,

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and the child asked all the questions that arise out of them; for instance :

How many more in five than in three?

Take away two from five, how many will remain ?

Put two and three together; do they make more or less than five ? &c.

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to pick out in those tables the objects which occur in the number one, then those which are double, triple, &c. After this I make him to go over the same numbers again on his fingers, or with beans, pebbles, or any other objects which are at hand. He is still more deeply impressed by repeating them a hundred times a day on the spelling-tablet,* first dividing each word into its syllables, and then asking: 'how many syllables has this word?' 'what is the first, the second, the third?' 'how many letters in the first, second, third syllable?' &c. In this manner children are made perfectly familiar with the elements of number; the intuitive knowledge of them remains present to their minds while learning the use of their abridgments, the ciphers, in which they must not be exercised before that point be fully secured. The most important advantage gained by this proceeding is, that arithmetic is made a foundation of clear ideas; but, independently of this, it is almost incredible how great a facility in the art of calculating the child derives from this intuitive knowledge. Experience has proved, that if the beginnings seemed involved in difficulties, it has only been because full effect was not given to this method; and it will, therefore, be necessary for me to enter farther into the details of the means which I have adopted.

"I have already mentioned, that the spelling-tablet is made use of for teaching arithmetic, each letter-square representing an unit. At the same time at which the children are introduced to the knowledge of the letters, they are led to observe their numerical proportions. A square is put up, and the teacher asks: 'Are there many squares here? Answer: No, there is but one. The teacher adds one, and asks again: 'One and one, how many are they?' Answer: 'One and one are two;' and so on, adding at first by ones, afterwards by twos, threes, &c.

"After the child has in this manner come to a full understanding of the composition of units up to ten, and has learned to express himself with perfect ease concerning each particular case, the squares are again put on the tablet in the same manner, but the question is changed: 'If there are two squares, how many times have we one square?' The child looks, counts, and answers correctly: 'If there are two squares, we have two times one square.'

"The child having thus distinctly and repeatedly counted over the parts of each number up to ten, and come to a clear view of the number of units contained in each, the question is changed again, the squares being still put up as before. 'Two, how many times one is it? Three, how many times one?' &c.; and again: 'How many times is one contained in two, three,' &c. After the child has in this manner been introduced to the simple

* This spelling-tablet is an apparatus, on which the letters, fixed on separate little squares of pasteboard, can be made to slide in and out; and thus words and sentences are composed by children, before their hand has acquired sufficient ability for writing.

elements of addition, multiplication, and division, and become conversant with their nature by the repeated representation of the relations which they express, in visible objects, subtraction is to be exercised upon the same plan, as follows: The ten squares being put up together, the teacher takes away one of them, and asks: 'If I take one from ten, how many remain?' The child counts, finds nine, and answers: 'If you take one from ten, there remain nine.' The teacher then takes away a second square, and asks: 'One less than nine, how many?' The child counts again, finds eight, and answers: 'One less than nine are eight;' and so on to the end.

"This exemplification of arithmetic is to be continued in successive exercises, and in the manner before described. For instance:

|	|	|	|	|	|	&c.
|	|	|	|	|	|	&c.
|	|	|	|	|	|	&c.

"As soon as the addition of one series is gone through, the subtraction is to be made at the same rate, thus: having counted together one and two make three, and two make five, and two make seven, and so on up to twenty-one squares, the subtraction is made by taking away two squares at a time, and asking; 'two from twenty-one, how many are there left?' and so on.

"The child has thus learned to ascertain the increase and diminution of number, when represented in real and moveable objects; the next step is to place the same successions before him in arithmetical tables, on which the numbers are represented by strokes or dots."

These tables have since fallen into disuse, and various sorts of apparatus have been substituted in their place; such, for instance, as the ball frame, well known in this country as part of the outfit of infant schools. For the sake of illustration, however, we add, on the other side, a representation of the original table* which, executed on a sufficiently large scale, might still form a useful implement on the wall of the school-room, if it was for no other purpose than to induce the habitual intuition of the first hundred numbers, in decimal series.

* For specimens of the exercises to be performed by means of this numerical table, see the "*Christian Monitor and Family Friend*," Part IV. p. 18.

"These tables," continues Pestalozzi, "on which the child is still calculating in real numbers, answer the same purpose as my spelling-book for the exemplification of sound in words exhibited on the slate. When the child has been exercised in this intuitive method of calculation as far as these tables go, he will have acquired so complete a knowledge of the real properties and proportions of number, as will enable him to enter with the utmost facility upon the common abridged modes of calculating by ciphers. His mind is above confusion and trifling guesswork; his arithmetic is a rational process, not mere memory work, or mechanical routine; it is the result of a distinct and intuitive apprehension of number, and the source of perfectly clear ideas in the farther pursuit of that science.

"But the increase and diminution of things is not confined to the number of units; it includes the division of units into parts. This forms a new species of arithmetic, in which we find every unit capable of division and subdivision into an indefinite number of parts.

"In the course before described, a stroke representing the unit, was made the intuitive basis of instruction; and it is now necessary, for the new species of calculation just mentioned, to find out a figure which shall be divisible to an indefinite extent, and yet preserve its character in all its parts, so that every one of them may be considered as an independent unit, analogous to the whole; and that the child may have its fractional relation to the whole as clearly before his eyes, as the relation of three to one, by three distinct strokes.

"The only figure adapted to this purpose is the square. By means of it the diminution of each single part, and the proportionate increase of the number of parts by the continued division and subdivision of the unit may be made as intuitively evident as the ascending scale of numbers by the addition or multiplication of units. A fraction table has been prepared, counting eleven lines, with ten squares in each line. The squares of the first line are undivided, those of the second divided in halves, those of the third in thirds, &c.

"This table is to be followed up by others, in which farther subdivisions are introduced in the following order. The squares which, in the first table, were divided into halves, are now divided into 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, parts; those in the third line into 3, 6, 9, 12, 15, 18, 21, 24, 27, and 30.

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to a knowledge of the decimal system, which ought not to be delayed, as the names of numbers in our language are entirely derived from their arrangement in decimal series. At first, every number in succession ought to be compared with the number ten; for instance, beginning with two, the teacher should call upon the child to put down ten, cubes on the table, strokes on his slate.

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Next, the teacher asks the child to divide the ten into twos;

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The child thus finds that there are five twos in one ten; and having, in the first instance, ascertained the proportion of two to ten, it will be easy for him to proceed with the following exercises:

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| |

six twos, how many tens and ones?

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| | | |

seven twos, how many tens and ones? &c.

And on the other hand,

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| | | | | | | | | |

two tens, how many twos?

three tens, how many twos? &c.

The same with five and ten:

| | | | | | | | | |

two fives, how many tens?

| | | | | | | | | |
| | | | |

three fives, how many tens? &c.

These exercises become somewhat more complicated when the number compared to ten is not a factor of ten: as, for instance, three.

Divide ten into threes:

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three threes, and one over.

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four threes, how many tens and ones?

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five threes, how many tens and ones?

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six threes, how many tens and ones?

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 |

seven threes, how many tens and ones?

eight threes, how many tens and ones?

nine threes, how many tens and ones?

ten threes, how many tens? &c.

And *vice versâ* :

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or

| | | | | | | | | | | | | | | |

two tens, how many threes?

six threes and two over.

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| | | | | | | | | | or | | | | | | | | | |

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three tens, how many threes? &c.

In this manner, all the numbers under ten should be compared to the decimal series as far as ten tens, or one hundred; and the child should be led to make his own observations as to the different sorts of remnants which occur with each number, and the number of tens which are required to make the sum of the remnants equal to the number compared.

After the pupil has, in this manner, become perfectly familiar with the relation which each number bears to the decimal series, he ought to be made acquainted with the relation which the pure and mixed derivatives of the three elementary numbers bear to each other. By pure derivatives we mean what is commonly called powers; and by mixed derivatives the combinations of the elementary numbers and their powers by multiplication. The following table will illustrate this still better:

I. PURE DERIVATIVES.

<i>of two.</i>	<i>of three.</i>	<i>of five.</i>
2	3	5
4	9	25
8	27	125
16	81	625
32	243	3125

II. MIXED DERIVATIVES.

A. Combination of two elementary numbers.

a. of two with three.

		6		
		12	18	
	24		36	54
48		72		108
				162

b. of two with five.

		10		
		20	50	
	40		100	250
80		200		500
				1250

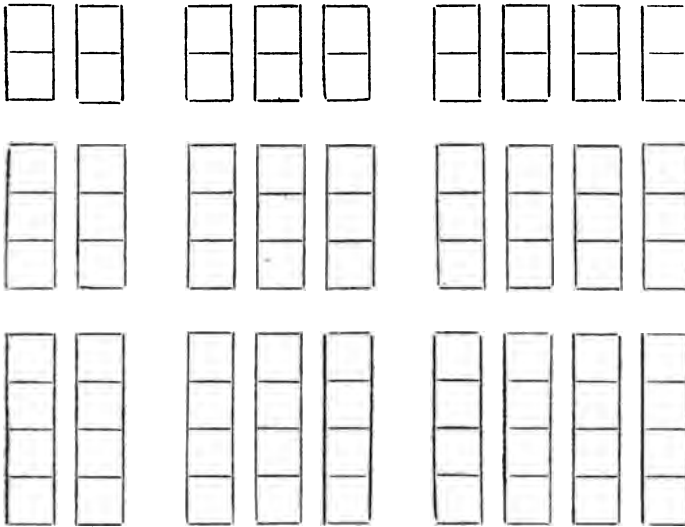
c. of three with five.

		15		
		45	75	
	135		225	375
405		675		1125
				1875

B. Combination of all the three elementary numbers.

		30		
	60		90	150
		180		450
	120		270	750
			300	
		540		1350
	360			2250
240			810	
	600			1500
		900		
				3750

It is clear from these tables, that every sort of derivatives, when pursued separately, outgrows the child's capacity almost at the first step; and the teacher must, therefore, take them in an order more suitable to his object. For this purpose, he should call upon the child to form with his cubes, on the table, all the pure and mixed derivatives of the three elementary numbers, within one hundred, in the manner illustrated by the following diagram:



that is to say,

two twos

$$2 \times 2$$

three twos

$$3 \times 2$$

four twos

$$4 \times 2$$

two threes

$$2 \times 3$$

three threes

$$3 \times 3$$

four threes

$$4 \times 3$$

two fours

$$2 \times 4$$

three fours

$$3 \times 4$$

four fours.

$$4 \times 4$$

This being done, the teacher may ask the following questions:

two twos: how many ones?
 how many twos?
 how many fours?

	1	2	3
	4	5	6
	7	8	9
	10	11	12
	13	14	15
	16	17	18
	19	20	21
	22	23	24
	25	26	27
	28	29	30
	31	32	33
	34	35	36
	37	38	39
	40	41	42
	43	44	45
	46	47	48
	49	50	51
	52	53	54
	55	56	57
	58	59	60
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	64	65	66
	67	68	69
	70	71	72
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	85	86	87
	88	89	90
	91	92	93
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	106	107	108
	109	110	111
	112	113	114
	115	116	117
	118	119	120
	121	122	123
	124	125	126
	127	128	129
	130	131	132
	133	134	135
	136	137	138
	139	140	141
	142	143	144
	145	146	147
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	358	359	360
	361	362	363
	364	365	366
	367	368	369
	370	371	372
	373	374	375
	376	377	378
	379	380	381
	382	383	384
	385	386	387
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	406	407	408
	409	410	411
	412	413	414
	415	416	417
	418	419	420
	421	422	423
	424	425	426
	427	428	429
	430	431	432
	433	434	435
	436	437	438
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	490	491	492
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	496	497	498
	499	500	501
	502	503	504
	505	506	507
	508	509	510
	511	512	513
	514	515	516
	517	518	519
	520	521	522
	523	524	525
	526	527	528
	529	530	531
	532	533	534
	535	536	537
	538	539	540
	541	542	543
	544	545	546
	547	548	549
	550	551	552
	553	554	555
	556	557	558
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	616	617	618
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	625	626	627
	628	629	630
	631	632	633
	634	635	636
	637	638	639
	640	641	642
	643	644	645
	646	647	648
	649	650	651
	652	653	654
	655	656	657
	658	659	660
	661	662	663
	664	665	666
	667	668	669
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	673	674	675
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	724	725	726
	727	728	729
	730	731	732
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	736	737	738
	739	740	741
	742	743	744
	745	746	747
	748	749	750
	751	752	753
	754	755	756
	757	758	759
	760	761	762
	763	764	765
	766	767	768
	769	770	771
	772	773	774
	775	776	777
	778	779	780
	781	782	783
	784	785	786
	787	788	789
	790	791	792
	793	794	795
	796	797	798
	799	800	801
	802	803	804
	805	806	807
	808	809	810
	811	812	813
	814	815	816
	817	818	819
	820	821	822
	823	824	825
	826	827	828
	829	830	831
	832	833	834
	835	836	837
	838	839	840
	841	842	843
	844	845	846
	847	848	849
	850	851	852
	853	854	855
	856	857	858
	859	860	861
	862	863	864
	865	866	867
	868	869	870
	871	872	873
	874	875	876
	877	878	879
	880	881	882
	883	884	885
	886	887	888
	889	890	891
	892	893	894
	895	896	897
	898	899	900
	901	902	903
	904	905	906
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	910	911	912
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	925	926	927
	928	929	930
	931	932	933
	934	935	936
	937	938	939
	940	941	942
	943	944	945
	946	947	948
	949	950	951
	952	953	954
	955	956	957
	958	959	960
	961	962	963
	964	965	966
	967	968	969
	970	971	972
	973	974	975
	976	977	978
	979	980	981
	982	983	984
	985	986	987
	988	989	990
	991	992	993
	994	995	996
	997	998	999
	1000	1001	1002

See Appendix in "The World Almanac and Book of Facts 1992" for more information.

facility, the above table ought to be gradually enlarged, in the following manner:

2×2	3×2	4×2	5×2
2×3	3×3	4×3	
2×4	3×4	4×4	
2×5			

2×2	3×2	4×2	5×2
2×3	3×3	4×3	5×3
2×4	3×4	4×4	
2×5	3×5		

2×2	3×2	4×2	5×2
2×3	3×3	4×3	5×3
2×4	3×4	4×4	5×4
2×5	3×5	4×5	

2×2	3×2	4×2	5×2
2×3	3×3	4×3	5×3
2×4	3×4	4×4	5×4
2×5	3×5	4×5	5×5

and so on, with the omission of the number seven, which does not admit of being reduced to any of the three elementary numbers, to ten times ten, when the table will stand as follows:

2×2	3×2	4×2	5×2	6×2	8×2	9×2	10×2
2×3	3×3	4×3	5×3	6×3	8×3	9×3	10×3
2×4	3×4	4×4	5×4	6×4	8×4	9×4	10×4
2×5	3×5	4×5	5×5	6×5	8×5	9×5	10×5
2×6	3×6	4×6	5×6	6×6	8×6	9×6	10×6
2×8	3×8	4×8	5×8	6×8	8×8	9×8	10×8
2×9	3×9	4×9	5×9	6×9	8×9	9×9	10×9
2×10	3×10	4×10	5×10	6×10	8×10	9×10	10×10

Of course the whole of this table is to be represented in cubes, according to the diagram, by the pupil himself, which will afford an opportunity of drawing the child's attention to the analogy between the proportions of form and of number, asking, concerning each combination, how many one way, how many the other way. The two facts, that two fives, or five twos make ten, and that a rectangle, whose sides are as two to five, contains ten squares of one, will thus be observed at the same time, and assist each other in the child's mind. In like manner the square numbers occur in the above table, forming the diagonal from the top at the left hand to the bottom at the right hand; and with the illustration which the cubes afford, every child will be able to understand the fact, which appears so puzzling when mystified in the algebraic formula:

$$(a + b)^2 = a^2 + 2ab + b^2.$$

With children of ordinary capacities, the exercises of the above table will be found a sufficient preparation for the twofold course by which they ought to be followed, viz. mental arithmetic on one hand, and analysis of numbers on the other. Should, however, any child be found particularly deficient, and require additional exercises with the cubes, these are easily supplied by adding the third dimension, which will furnish another series of exercises, beginning with $2 \times 2 \times 2 = 8$, proceeding to $3 \times 2 \times 2$, or $2 \times 3 \times 2$, or $2 \times 2 \times 3 = 12$; and so on, through all the combinations of the numbers in the above table, to $10 \times 10 \times 10 = 1000$.

The next step to be taken is to proceed to mental arithmetic, which at first should be nothing else than a repetition of the above exercises, without the aid of visible objects, and with the insertion of the intervening numbers 7, 11, 13, 17, 19, &c. and of their products 14, 21, 22, 26, 28, &c. which not being derived from the primary numbers 2, 3 and 5, were at first omitted. By degrees the exercises in mental arithmetic ought to be enlarged beyond the limits within which the exercises with visible objects were confined; and, if a

proper succession be observed, so as not to proceed with undue hurry to too complicated operations, or too extensive numbers, they may be carried to almost any extent. It is to be particularly observed here, that children should not be made acquainted with the ciphering system, even in this part of the course, except so far as it will enable them to write down the result of their operations, or the data for them; but on no account ought they, at this time, to be initiated in the abridged modes of addition, subtraction, multiplication, and division, by ciphers, which are nothing but a blind mechanism, in the working of which the mind is virtually inactive. To illustrate this by one example, we will follow out the operations of the mind which take place in the solution of a common question of multiplication, accordingly as the pupil works in ciphers, or in numbers.

Suppose the question to be $256 \times 16,379$, the ciphering pupil sets them out in the usual manner, as follows:

$$\begin{array}{r}
 16,379 \\
 256 \\
 \hline
 98274 \\
 81895 \\
 32758 \\
 \hline
 4,193,024
 \end{array}$$

Now what are the operations of his mind during this process? We will, at the risk of being thought tedious, transcribe them for the benefit of those who are hard to be convinced.

Set down the multiplicandum,	16,379
set down below it the multiplier.	256

Multiply first by six.

Six times nine are fifty-four,
put four, carry five;

six times seven are forty-two,
 forty-two and five are forty-seven,
 put seven, carry four;
 six times three are eighteen,
 eighteen and four are twenty-two,
 put two, carry two;
 six times six are thirty-six,
 thirty-six and two are thirty-eight.
 put eight, carry three;
 six times one are six,
 six and three are nine,
 put nine.

Multiply next by five, drawing in by one cipher to the left.

Five times nine are forty-five,
 put five, carry four;
 five times seven are thirty-five,
 thirty-five and four are thirty-nine,
 put nine, carry three;
 five times three are fifteen,
 fifteen and three are eighteen,
 put eight, carry one;
 five times six are thirty,
 thirty and one are thirty-one,
 put one, carry three;
 five times one are five,
 five and three are eight,
 put eight.

Multiply next by two, drawing in by one cipher as before.

Twice nine are eighteen,
 put eight, carry one;
 twice seven are fourteen,
 fourteen and one are fifteen,
 put five, carry one;

twice three are six,
 six and one are seven,
 put seven;
 twice six are twelve,
 put two, carry one;
 twice one are two,
 two and one are three,
 put three.

Add up the three rows.

Four is four,
 five and seven are twelve;
 put two, carry one;
 one and eight are nine, and nine are eighteen,
 and two are twenty;
 put nought, carry two;
 two and five are seven, and eight are fifteen,
 and eight are twenty-three;
 put three, carry two;
 two and seven are nine, and one are ten, and
 nine are nineteen;
 put nine, carry one;
 one and two are three, and eight are eleven;
 put one, carry one;
 one and three are four,
 put four.

Product: four millions, one hundred and ninety-three
 thousand, and twenty-four.

Here, then, we have no less than sixty distinct operations, performed, we contend, without any, even the slightest, benefit to the mind of the pupil. Let the advocates of the ciphering system, the romantic knight-errants of mechanical routine, specify in what manner they conceive the mind to be benefited by an operation such as that now detailed, such as is the daily toil of thousands and thousands of the

unfortunate victims of the present systems; such as, when duly performed, before the most "spiritually enlightened," the heads of the church, in a national school, or before the most "intellectually enlightened," the patrons of useful knowledge, in a Lancasterian school, will draw down showers of approbation upon master and pupils; we are tempted to say, upon the chief drudge and his sub-drudges; and will redound, at the Freemason's Hall and elsewhere, to the everlasting honour of the system, as one of the means by which a rational existence, "that great prerogative of man, that birthright of every human being," will be ensured to all classes of society, and "intelligence diffused throughout the land," and, by exportation "over the surface of the globe;" or, to substitute the sacred for the profane key, as one of the "subsidiary means" by which, "under the divine blessing, that happy time is to be brought about, when 'the knowledge of the Lord shall cover the earth as the waters cover the sea.'" If any man of good repute, and of straight-forward, common sense, will undertake to write a treatise "upon cant," a work much wanted at this moment, we herewith pledge ourselves to furnish him with a chapter on "the cant of popular education;" meanwhile, asking our readers' pardon for the involuntary digression, we return to our multiplication question, and observe:

1. That the setting down of multiplicand and multiplier, the successive multiplication with the three ciphers of the latter from the right to the left, and the drawing in of each successive line by one cipher, as well as the spouting of the ciphers of the product according to their decimal places, are either, as is commonly the case, performed without any knowledge of the reason of all those technicalities, or the reason of them is known and understood. In the former case, obviously, the mind is reduced to the ignoble similitude of a blind mill-horse, which steps on in the prescribed path without a whence or a whither; in the latter case, the operation is a mere repetition, which cannot render the matter more intelligible.

2. That the multiplications, $6 \times 9 = 54$, $6 \times 7 = 42$, $6 \times 3 = 18$, &c. are all mere repetitions of different parts of the common multiplication table, equally unprofitable to the mind; whether the multiplication table have been learned, in the first instance, by the aid of visible objects, in an intelligent manner; or whether it have been, as is commonly the case, committed to the memory as a mere unintelligible jingle of correlative sounds and signs.

3. That the additions, $42 + 5 = 47$, $18 + 4 = 22$, $36 + 2 = 38$, &c. as well as the ultimate summing of the three rows, are again liable to the same objection of useless repetition, whether they be performed with a knowledge of the decimal system, or by a mere mechanical application of the contents of the addition table, learned by rote, with or without the aid of the pitch-pipe.

4. That the notations, put four, carry five; put seven, carry four, &c., are operations which, whether the principle of them be originally understood or not, are again so many barren mechanical performances.

From all this it is evident, that *there is not one of the sixty operations enumerated, which, in itself, has the least tendency to enlarge, develop, or strengthen the mind.* It remains, then, to be seen, *whether or not they are calculated in the aggregate to produce such an effect, by illustrating the relation in which the three numbers, 256, 16,379, and 4,193,024, stand to each other.* But dauntless as is the courage, now and then, displayed in the gallant defence of absurdities, we much doubt that any one will be found bold enough to maintain, that any part, or the whole, of the sixty operations above detailed, has the least tendency to convince the mind, that sixteen thousand three hundred and seventy-nine, taken two hundred and fifty-six times, are equal to four millions, one hundred ninety-three thousand and twenty-four; or can, by the cleverest explanation that ever adorned a schoolmaster's lips, be made to illustrate that fact.

We shall now proceed to detail the manner in which the same question would be solved by a child unacquainted with

the machinery of ciphering, using ciphers only as an abridged mode of noting down numbers, in case the question involve more of them, than he is able to remember without encumbering his mind and distracting his attention. Upon having the question first proposed to him, he would discover various modes of proceeding, for instance:

Following the most obvious division of the multiplicator, according to the decimal system, he would take two hundred times 16,379; fifty times 16,379; and six times 16,379, and add the products; or, being struck by the proportion of 250 to 1000, he would divide 16,379,000 by 4, and add to this six times 16,379; or, analyzing 256 into its factors, he would take $4 \times 8 \times 8 \times 16,379$.

Each of these operations would in detail be as follows:

I. two hundred times sixteen thousand three hundred and seventy-nine;

two hundred times sixteen thousand, are thirty-two hundred thousand, or three millions two hundred thousand;

two hundred times three hundred, are six times hundred times hundred, or sixty thousand;

three millions two hundred thousand and sixty thousand, are three millions two hundred and sixty thousand;

two hundred times seventy are fourteen times ten times hundred, or fourteen thousand;

three millions two hundred and sixty thousand, and fourteen thousand are three millions two hundred and seventy-four thousand;

two hundred times nine are eighteen hundred, or one thousand eight hundred;

three millions two hundred and seventy-four thousand, and one thousand eight hundred, are three millions two hundred and seventy-five thousand eight hundred;

This sum the pupil will find it expedient to note down:

3,275,800; in order to have his attention undivided for the next part of his question:

fifty times sixteen thousand three hundred and seventy-nine;

fifty times sixteen thousand, are eight times one hundred thousand, or eight hundred thousand;

fifty times three hundred, are five times three thousand, or fifteen thousand;

eight hundred thousand, and fifteen thousand, are eight hundred fifteen thousand;

fifty times seventy are thirty-five times a hundred, or three thousand five hundred;

eight hundred fifteen thousand, and three thousand five hundred, are eight hundred eighteen thousand five hundred;

fifty times nine are four hundreds and a half, or four hundred and fifty;

eight hundred eighteen thousand five hundred, and four hundred and fifty, are eight hundred eighteen thousand nine hundred and fifty;

to be noted down : 818,950;

three millions two hundred seventy-five thousand eighteen hundred, added to eight hundred eighteen thousand nine hundred and fifty:

three millions two hundred thousand, and eight hundred thousand are four millions;

seventy-five thousand, and eighteen thousand, are eighty-five, and eight, or ninety-three thousand;

together, four millions and ninety-three thousand;

eight hundred, and nine hundred and fifty, are seven hundred and fifty, or one thousand seven hundred and fifty;

four millions and ninety-three thousand, and one thousand seven hundred and fifty, are four millions, and ninety-four thousand, seven hundred and fifty.

to be noted down : 4,094,750;

six times sixteen thousand three hundred and seventy-nine;

six times sixteen thousand are ninety-six thousand;

six times three hundred are eighteen hundred, or one thousand eight hundred;

ninety-six thousand, and one thousand eight hundred, are ninety-seven thousand eight hundred;

six times seventy are forty-two times ten, or four hundred and twenty; and

six times nine are fifty-four;

together, four hundred and seventy-four;

ninety-seven thousand eight hundred, and four hundred and seventy-four, are ninety-seven thousand and twelve hundred, or ninety-eight thousand two hundred and seventy-four;

noted down: 98,274.

four millions, and ninety-four thousand seven hundred and fifty, added to ninety-eight thousand two hundred and seventy-four;

twice ninety thousand are one hundred and eighty thousand; and

four thousand, and eight thousand, are twelve thousand;

together, four millions, one hundred and ninety-two thousand;

seven hundred, and two hundred, are nine hundred; and

fifty, and seventy-four, are one hundred and twenty-four;

together, one thousand and twenty-four;

four millions one hundred and ninety-two thousand, and one thousand and twenty-four, are four millions one hundred and ninety-three thousand and twenty-four;

noted down: 4,193,024.

II. two hundred and fifty times sixteen thousand, three hundred and seventy-nine, are equal to the fourth part of sixteen thousand three hundred and seventy-nine times thousand, or sixteen millions three hundred and seventy-nine thousand ;

the fourth part of sixteen millions are four millions ;

the fourth part of three hundred and sixty thousand are ninety thousand ;

together, four millions and ninety thousand ;

the fourth part of nineteen thousand are four thousand, and the fourth part of three thousand ;

the fourth part of two thousand are five hundred, and of one thousand two hundred and fifty ;

four thousand and five hundred, and two hundred and fifty, are four thousand seven hundred and fifty ;

four millions and ninety thousand, and four thousand seven hundred and fifty, are four millions and ninety-four thousand seven hundred and fifty ;

noted down: 4,094,750 ;

to which add $6 \times 16,379$ as before detailed.

III. Eight times sixteen thousand three hundred and seventy-nine ;

eight times ten thousand are eighty thousand, and

eight times six thousand are forty-eight thousand ;

together, one hundred and twenty-eight thousand ;

eight times three hundred are twenty-four hundred, or two thousand four hundred ;

one hundred and twenty-eight thousand, and

two thousand four hundred, are one hun-

dred and thirty thousand and four hundred ;

eight times seventy are fifty-six times ten, or five hundred and sixty ; and

eight times nine are seventy-two, five hundred and sixty, and seventy-two, are six hundred and thirty-two;
 one hundred and thirty thousand four hundred, and six hundred and thirty-two, are one hundred and thirty-one thousand and thirty-two;
 noted down: 131,032.

eight times one hundred and thirty-one thousand and thirty-two;
 eight times one hundred thousand are eight hundred thousand;
 eight times thirty thousand are two hundred and forty thousand;
 together, ten hundred and forty thousand, or one million and forty thousand;
 eight times one thousand are eight thousand;
 together, one million and forty-eight thousand;
 eight times thirty are two hundred and forty, and eight times two are sixteen;
 together, two hundred and fifty-six;
 total: one million and forty-eight thousand, two hundred and fifty-six;
 noted down: 1,048,256.

four times one million, and forty-eight thousand two hundred and fifty-six;
 four times one million are four millions;
 four times forty thousand are one hundred and sixty thousand, and
 four times eight thousand are thirty-two thousand;
 together, four millions one hundred and ninety-two thousand;
 four times two hundred and fifty are one thousand;
 together, four millions one hundred and ninety-three thousand, and

four times six are twenty-four;
together, four millions one hundred and ninety-
three thousand, and twenty-four.

From these details it is evident, that the same result which, upon the ciphering system, is obtained through sixty distinct operations, requires, when the question is worked in an intelligent way through numbers, only forty-three operations upon the first, twenty-seven upon the second, and thirty-one upon the third plan; and that, whilst the former are all perfectly unintellectual, there is not one of the latter that can be performed without the mind actually reflecting upon the proportions of the respective numbers, and thus being, to all intents and purposes, intellectually exercised.

Those who have not had an opportunity of witnessing the facility and rapidity with which operations in numbers are performed, may perhaps be appalled by the apparent difficulty of keeping such large sums, and such complicated operations present before the mind. But let them remember, that what may appear difficult, nay almost impossible to those, whose minds are spoiled for an intuitive combination of numbers, by the machinery of their ciphering systems, is not necessarily so to minds familiar with the subject, and accustomed to that species of exercise. On the contrary we can, from experience, assure them, that pupils who have either from the very first rudiments of arithmetic been exclusively taught upon this plan, or who, having originally been taught ciphering, have had sufficient time given them for acquiring a better habit of mind, calculate with greater rapidity and greater security than pupils of the ciphering system, at the same age, after the same average amount of instruction; and that, although our mode of proceeding unquestionably requires a greater effort of mind, yet that effort being a wholesome exercise, is less fatiguing than the unmeaning routine of the ciphering system; so much so, that mental arithmetic is,

with the generality of pupils, always a favorite lesson. As a remarkable coincidence, we may mention that the calculating boy, who was exhibited a few years ago, and whose operations the most rapid cipherers could not follow, always worked in numbers, in the manner here pointed out, and never by the system of "put and carry."

But although we insist so strongly on the advantages of calculation in numbers, we are by no means blind to those of the ciphering system. For the purpose of notation we ourselves bring it early into use, and the abridged modes of calculation in ciphers are for some kinds of operations, if not more useful, at least more commodious. Still it ought to be remembered that this applies only to those cases where the calculation itself is the object, and the mode of performing it, comparatively, indifferent; whereas in education, where the development of the mind is the object, and calculation the means, the ciphering method is, as inefficient for that purpose, decidedly to be rejected. Besides, as the calculation in numbers is greatly impeded by a previous knowledge of the ciphering method, whilst, on the contrary, the very best preparation for the latter is a thorough knowledge and practice of the former, it is evident that this fact alone would suffice to give the decided preference to the calculation in numbers; the usual methods of arithmetic by ciphers being set aside as a separate object of instruction, to be taken up at that period when the mind, sufficiently conversant with the reality, the numbers, can no longer be injured by the use of the ciphers, which are their signs.

Having, we trust, satisfactorily illustrated the difference between calculation in numbers and ciphering, we shall now proceed to enter into a few details respecting mental arithmetic, by which term, it will be recollected, we mean the mental practice of the former, not the latter, mode of calculation. One of the difficulties connected with this branch of instruction arises from the necessity of giving to each pupil a separate question, as in the contrary case a few ready arithmeticians would soon monopolize the whole lesson. To avoid this, and

yet to keep up the constant intercourse between the teacher and his pupils, we have found it an excellent expedient to prepare tables, on which the questions to be asked, with the answers to them, are placed in series, according to a regular progress from easier to more difficult problems. Having a sufficient number of these tables, the teacher has nothing to do, but to lay before him as many series of questions as he has pupils in his class, which, however, ought not to be too numerous, and to keep on each series a separate mark to show what question each pupil is engaged in. He then gives to each pupil in his turn a question, and after having made the round of the class, he turns back to the first, receives his answer, and sets him a new question, then proceeds to his neighbour, and so on, passing over those who occasionally are not ready with their answer, or repeating their question to them if they should have forgotten it. The following is a specimen of one of these tables, containing three series of questions on numbers which stand in the relation of factor and product.

$2 \times 2 =$	1×4	$3 \times 2 =$	1×6	$4 \times 3 =$	1×12
$4 \times 2 =$	2×4	$6 \times 2 =$	2×6	$8 \times 3 =$	2×12
$6 \times 2 =$	3×4	$9 \times 2 =$	3×6	$12 \times 3 =$	3×12
$8 \times 2 =$	4×4	$12 \times 2 =$	4×6	$16 \times 3 =$	4×12
$10 \times 2 =$	5×4	$15 \times 2 =$	5×6	$20 \times 3 =$	5×12
$12 \times 2 =$	6×4	$18 \times 2 =$	6×6	$24 \times 3 =$	6×12
$14 \times 2 =$	7×4	$21 \times 2 =$	7×6	$28 \times 3 =$	7×12
$16 \times 2 =$	8×4	$24 \times 2 =$	8×6	$32 \times 3 =$	8×12
$18 \times 2 =$	9×4	$27 \times 2 =$	9×6	$36 \times 3 =$	9×12
$20 \times 2 =$	10×4	$30 \times 2 =$	10×6	$40 \times 3 =$	10×12
&c. &c.		&c. &c.		&c. &c.	

The teacher would have to ask, in the first series, for instance,

two twos, how many fours?

four twos, how many fours? &c.

or vice versâ,

one four, how many twos?

two fours, how many twos? &c.

and afterwards alternating the mode of question as he proceeds down the series:

two twos, how many fours?
 two fours, how many twos?
 six twos, how many fours?
 four fours, how many twos? &c.

Another set of tables arises from the comparison of numbers, which stand to one another in the proportion of 2 to 3; for instance,

$3 \times 2 = 2 \times 3$	$3 \times 4 = 2 \times 6$	$3 \times 6 = 2 \times 9$
$6 \times 2 = 4 \times 3$	$6 \times 4 = 4 \times 6$	$6 \times 6 = 4 \times 9$
$9 \times 2 = 6 \times 3$	$9 \times 4 = 6 \times 6$	$9 \times 6 = 6 \times 9$
$12 \times 2 = 8 \times 3$	$12 \times 4 = 8 \times 6$	$12 \times 6 = 8 \times 9$
$15 \times 2 = 10 \times 3$	$15 \times 4 = 10 \times 6$	$15 \times 6 = 10 \times 9$
$18 \times 2 = 12 \times 3$	$18 \times 4 = 12 \times 6$	$18 \times 6 = 12 \times 9$
&c. &c.	&c. &c.	&c. &c.

or, in the proportion of 3 to 4; for instance,

$4 \times 3 = 3 \times 4$	$4 \times 6 = 3 \times 8$	$4 \times 9 = 3 \times 12$
$8 \times 3 = 6 \times 4$	$8 \times 6 = 6 \times 8$	$8 \times 9 = 6 \times 12$
$12 \times 3 = 9 \times 4$	$12 \times 6 = 9 \times 8$	$12 \times 9 = 9 \times 12$
$16 \times 3 = 12 \times 4$	$16 \times 6 = 12 \times 8$	$16 \times 9 = 12 \times 12$
$20 \times 3 = 15 \times 4$	$20 \times 6 = 15 \times 8$	$20 \times 9 = 15 \times 12$
$24 \times 3 = 18 \times 4$	$24 \times 6 = 18 \times 8$	$24 \times 9 = 18 \times 12$
$28 \times 3 = 21 \times 4$	$28 \times 6 = 21 \times 8$	$28 \times 9 = 21 \times 12$
$32 \times 3 = 24 \times 4$	$32 \times 6 = 24 \times 8$	$32 \times 9 = 24 \times 12$
&c. &c.	&c. &c.	&c. &c.

The same with other proportions, as 2 to 5; 2 to 7; 2 to 9; 2 to 11, &c.; or 3 to 5; 3 to 7; 3 to 8; 3 to 10; 3 to 11, &c.; or 4 to 5; 4 to 7; 4 to 9; 4 to 11; &c.

Each of these proportions ought to be followed through all the numbers, which admit of that proportion without fraction, and are within the limits of the average capacity of the pupil at the time of the exercise. By way of example, we will follow out the proportion: 3 to 5; confining ourselves within 36 and 60, as regards the heads of the series, and pursuing each series as far as 80 and 48 times the numbers compared. We shall then obtain the following twelve series:

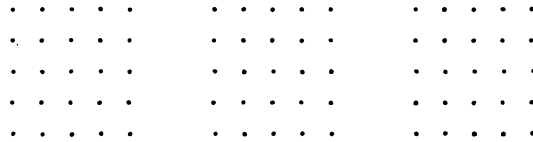
$5 \times 3 = 3 \times 5$	$5 \times 6 = 3 \times 10$	$5 \times 9 = 3 \times 15$
$10 \times 3 = 6 \times 5$	$10 \times 6 = 6 \times 10$	$10 \times 9 = 6 \times 15$
$15 \times 3 = 9 \times 5$	$15 \times 6 = 9 \times 10$	$15 \times 9 = 9 \times 15$
$20 \times 3 = 12 \times 5$	$20 \times 6 = 12 \times 10$	$20 \times 9 = 12 \times 15$
$25 \times 3 = 15 \times 5$	$25 \times 6 = 15 \times 10$	$25 \times 9 = 15 \times 15$
$30 \times 3 = 18 \times 5$	$30 \times 6 = 18 \times 10$	$30 \times 9 = 18 \times 15$
$35 \times 3 = 21 \times 5$	$35 \times 6 = 21 \times 10$	$35 \times 9 = 21 \times 15$
$40 \times 3 = 24 \times 5$	$40 \times 6 = 24 \times 10$	$40 \times 9 = 24 \times 15$
$45 \times 3 = 27 \times 5$	$45 \times 6 = 27 \times 10$	$45 \times 9 = 27 \times 15$
$50 \times 3 = 30 \times 5$	$50 \times 6 = 30 \times 10$	$50 \times 9 = 30 \times 15$
$55 \times 3 = 33 \times 5$	$55 \times 6 = 33 \times 10$	$55 \times 9 = 33 \times 15$
$60 \times 3 = 36 \times 5$	$60 \times 6 = 36 \times 10$	$60 \times 9 = 36 \times 15$
$65 \times 3 = 39 \times 5$	$65 \times 6 = 39 \times 10$	$65 \times 9 = 39 \times 15$
$70 \times 3 = 42 \times 5$	$70 \times 6 = 42 \times 10$	$70 \times 9 = 42 \times 15$
$75 \times 3 = 45 \times 5$	$75 \times 6 = 45 \times 10$	$75 \times 9 = 45 \times 15$
$80 \times 3 = 48 \times 5$	$80 \times 6 = 48 \times 10$	$80 \times 9 = 48 \times 15$

$5 \times 12 = 3 \times 20$	$5 \times 15 = 3 \times 25$	$5 \times 18 = 3 \times 30$
$10 \times 12 = 6 \times 20$	$10 \times 15 = 6 \times 25$	$10 \times 18 = 6 \times 30$
$15 \times 12 = 9 \times 20$	$15 \times 15 = 9 \times 25$	$15 \times 18 = 9 \times 30$
$20 \times 12 = 12 \times 20$	$20 \times 15 = 12 \times 25$	$20 \times 18 = 12 \times 30$
$25 \times 12 = 15 \times 20$	$25 \times 15 = 15 \times 25$	$25 \times 18 = 15 \times 30$
$30 \times 12 = 18 \times 20$	$30 \times 15 = 18 \times 25$	$30 \times 18 = 18 \times 30$
$35 \times 12 = 21 \times 20$	$35 \times 15 = 21 \times 25$	$35 \times 18 = 21 \times 30$
$40 \times 12 = 24 \times 20$	$40 \times 15 = 24 \times 25$	$40 \times 18 = 24 \times 30$
$45 \times 12 = 27 \times 20$	$45 \times 15 = 27 \times 25$	$45 \times 18 = 27 \times 30$
$50 \times 12 = 30 \times 20$	$50 \times 15 = 30 \times 25$	$50 \times 18 = 30 \times 30$
$55 \times 12 = 33 \times 20$	$55 \times 15 = 33 \times 25$	$55 \times 18 = 33 \times 30$
$60 \times 12 = 36 \times 20$	$60 \times 15 = 36 \times 25$	$60 \times 18 = 36 \times 30$
$65 \times 12 = 39 \times 20$	$65 \times 15 = 39 \times 25$	$65 \times 18 = 39 \times 30$
$70 \times 12 = 42 \times 20$	$70 \times 15 = 42 \times 25$	$70 \times 18 = 42 \times 30$
$75 \times 12 = 45 \times 20$	$75 \times 15 = 45 \times 25$	$75 \times 18 = 45 \times 30$
$80 \times 12 = 48 \times 20$	$80 \times 15 = 48 \times 25$	$80 \times 18 = 48 \times 30$

$5 \times 21 = 3 \times 35$	$5 \times 24 = 3 \times 40$	$5 \times 27 = 3 \times 45$
$10 \times 21 = 6 \times 35$	$10 \times 24 = 6 \times 40$	$10 \times 27 = 6 \times 45$
$15 \times 21 = 9 \times 35$	$15 \times 24 = 9 \times 40$	$15 \times 27 = 9 \times 45$
$20 \times 21 = 12 \times 35$	$20 \times 24 = 12 \times 40$	$20 \times 27 = 12 \times 45$
$25 \times 21 = 15 \times 35$	$25 \times 24 = 15 \times 40$	$25 \times 27 = 15 \times 45$
$30 \times 21 = 18 \times 35$	$30 \times 24 = 18 \times 40$	$30 \times 27 = 18 \times 45$
$35 \times 21 = 21 \times 35$	$35 \times 24 = 21 \times 40$	$35 \times 27 = 21 \times 45$
$40 \times 21 = 24 \times 35$	$40 \times 24 = 24 \times 40$	$40 \times 27 = 24 \times 45$
$45 \times 21 = 27 \times 35$	$45 \times 24 = 27 \times 40$	$45 \times 27 = 27 \times 45$
$50 \times 21 = 30 \times 35$	$50 \times 24 = 30 \times 40$	$50 \times 27 = 30 \times 45$
$55 \times 21 = 33 \times 35$	$55 \times 24 = 33 \times 40$	$55 \times 27 = 33 \times 45$
$60 \times 21 = 36 \times 35$	$60 \times 24 = 36 \times 40$	$60 \times 27 = 36 \times 45$
$65 \times 21 = 39 \times 35$	$65 \times 24 = 39 \times 40$	$65 \times 27 = 39 \times 45$
$70 \times 21 = 42 \times 35$	$70 \times 24 = 42 \times 40$	$70 \times 27 = 42 \times 45$
$75 \times 21 = 45 \times 35$	$75 \times 24 = 45 \times 40$	$75 \times 27 = 45 \times 45$
$80 \times 21 = 48 \times 35$	$80 \times 24 = 48 \times 40$	$80 \times 27 = 48 \times 45$

$5 \times 30 = 3 \times 50$	$5 \times 33 = 3 \times 55$	$5 \times 36 = 3 \times 60$
$10 \times 30 = 6 \times 50$	$10 \times 33 = 6 \times 55$	$10 \times 36 = 6 \times 60$
$15 \times 30 = 9 \times 50$	$15 \times 33 = 9 \times 55$	$15 \times 36 = 9 \times 60$
$20 \times 30 = 12 \times 50$	$20 \times 33 = 12 \times 55$	$20 \times 36 = 12 \times 60$
$25 \times 30 = 15 \times 50$	$25 \times 33 = 15 \times 55$	$25 \times 36 = 15 \times 60$
$30 \times 30 = 18 \times 50$	$30 \times 33 = 18 \times 55$	$30 \times 36 = 18 \times 60$
$35 \times 30 = 21 \times 50$	$35 \times 33 = 21 \times 55$	$35 \times 36 = 21 \times 60$
$40 \times 30 = 24 \times 50$	$40 \times 33 = 24 \times 55$	$40 \times 36 = 24 \times 60$
$45 \times 30 = 27 \times 50$	$45 \times 33 = 27 \times 55$	$45 \times 36 = 27 \times 60$
$50 \times 30 = 30 \times 50$	$50 \times 33 = 30 \times 55$	$50 \times 36 = 30 \times 60$
$55 \times 30 = 33 \times 50$	$55 \times 33 = 33 \times 55$	$55 \times 36 = 33 \times 60$
$60 \times 30 = 36 \times 50$	$60 \times 33 = 36 \times 55$	$60 \times 36 = 36 \times 60$
$65 \times 30 = 39 \times 50$	$65 \times 33 = 39 \times 55$	$65 \times 36 = 39 \times 60$
$70 \times 30 = 42 \times 50$	$70 \times 33 = 42 \times 55$	$70 \times 36 = 42 \times 60$
$75 \times 30 = 45 \times 50$	$75 \times 33 = 45 \times 55$	$75 \times 36 = 45 \times 60$
$80 \times 30 = 48 \times 50$	$80 \times 33 = 48 \times 55$	$80 \times 36 = 48 \times 60$

In solving the questions, the teacher ought to let the pupil, at first, pursue quite his own way, without interfering any further, than by asking now and then the question: How did you make it out? He will then find, either that the pupil has for himself found out the shortest way, or if not, he may lead him to it: for instance, let the question be forty fifteens, how many twenty-fives? the pupil may, very likely, take $40 \times 15 = 600$; and afterwards $600 : 25 = 24$. After allowing him for some time to proceed in this manner, the teacher should take an opportunity of drawing his attention to the proportion between 15 and 25; for if he have found that $15 : 25 :: 3 : 5$, it will not be difficult for him to perceive that instead of $40 \times 15 = 600 : 25 = 24$, it would be much shorter to say $40 : 5 = 8 \times 3 = 24$. Should the pupil not at once, of himself, discover this abridged mode of proceeding; the teacher may assist him by the following diagram:



The pupil here sees that five fifteens are equal to three twenty-fives; and the above question then resolves itself as follows. If you have forty fifteens, how many times would you have to repeat this diagram, in order to represent them?

Answer: eight times.

And in eight such diagrams, how many twenty-fives would there be?

Answer: twenty-four.

In this manner the teacher may, when he finds it necessary, supply each pupil with the diagram for his series of questions; for instance, by way of illustrating the twelve series of questions which we have given in detail, the following diagrams would be used.

$$5 \times 3 = 3 \times 5, \&c.$$

. . .
 . . .
 . . .
 . . .
 . . .

$$5 \times 6 = 3 \times 10, \&c.$$

.

$$5 \times 9 = 3 \times 15, \&c.$$

.

$$5 \times 12 = 3 \times 20, \&c.$$

.

$$5 \times 15 = 3 \times 25, \&c.$$

.

$$5 \times 18 = 3 \times 30, \&c.$$

.

$$5 \times 21 = 3 \times 35, \&c.$$

.....

$$5 \times 24 = 3 \times 40, \&c.$$

.....

$$5 \times 27 = 3 \times 45, \&c.$$

.....

$$5 \times 30 = 3 \times 50, \&c.$$

.....

$$5 \times 33 = 3 \times 55, \&c.$$

.....

$$5 \times 36 = 3 \times 60, \&c.$$

.....

Occasionally the teacher will find, while using these question series, that indolent pupils, having discovered the ratio of progression, in which the questions succeed each other, avoid the solution of them altogether, by adding each time to the preceding answer; for instance, in the series headed $5 \times 12 = 3 \times 20$, if the questions be put in this way:

Five twelves, how many twenties?

Answer: three.

Ten twelves, how many twenties?

Answer: six.

Fifteen twelves, how many twenties?

Answer: nine, &c.

The pupil has nothing to do but to add three to each preceding answer. This trick will not long escape the notice of an attentive teacher; and if he suspect it, he may soon discover it by skipping a few questions. To prevent it, the order of putting the question may be inverted alternately; for instance:

Five twelves, how many twenties?

Answer: three.

Six twenties, how many twelves?

Answer: ten.

Fifteen twelves, how many twenties?

Answer: nine.

Twelve twenties, how many twelves?

Answer: twenty.

Twenty-five twelves, how many twenties?

Answer: fifteen, &c.

Some pupils, however, will rather add the terms of the alternate progression, than undergo the trouble of solving the question; and in this case, the teacher must have recourse to quite a different sort of tables, in which the questions of a whole set of the ordinary series shall be mixed in such a way as to present no sort of regular progression to the pupil; although the teacher, in arranging them, ought to proceed upon a regular plan, so that he may still give the pupil the advantage of a regular progress from easier to more difficult tables. The following specimen will be sufficient for illustration:

$$\begin{aligned}
2 \times 2 &= 1 \times 4 \\
6 \times 2 &= 3 \times 4 \\
4 \times 3 &= 2 \times 6 \\
2 \times 5 &= 1 \times 10 \\
4 \times 5 &= 2 \times 10 \\
6 \times 3 &= 3 \times 6 \\
4 \times 2 &= 2 \times 4 \\
2 \times 3 &= 1 \times 6 \\
8 \times 3 &= 4 \times 6, \&c.
\end{aligned}$$

The questions of this series include those of three of the regular series, headed $2 \times 2 = 1 \times 4$; $2 \times 3 = 1 \times 6$; and $2 \times 5 = 1 \times 10$; and in whichever way the teacher may put them, the pupil will always be compelled to work each separate question in order to arrive at the solution.

In the same manner, as we have here detailed the arrangement of questions for mental arithmetic, answering to the formula $a \times b = c \times d$, other sets of questions may be prepared, to exercise the pupils in other arithmetical operations; for instance, upon the following formulæ:

$$\begin{aligned}
a : b &= c : d \\
a : b &= c \times d \\
a \times b \times c &= d \times e \\
a : b : c &= d : e \\
a \times b : c &= d \times e \\
a : b \times c &= d \times e \\
a : b : c &= d \times e \\
a \times b \times c &= d : e \\
a \times b : c &= d : e \\
a : b \times c &= d : e \\
a \times b \times c &= d \times e \times f \\
a \times b : c &= d : e : f \\
a \times b : c &= d \times e \times f \\
a : b \times c &= d \times e \times f \\
a : b : c &= d \times e \times f, \&c.
\end{aligned}$$

The numbers represented by these letters must all be such as are referrible to each other without fraction, as the calculation of fractions forms a separate course, which is to succeed the

present. In order to facilitate the arrangement of tables according to the above formulæ, we will add one series of each sort, with the mode of asking the questions.

$$a : b = c : d$$

$$12 : 6 = 10 : 5$$

$$18 : 6 = 15 : 5$$

$$24 : 6 = 20 : 5$$

$$30 : 6 = 25 : 5$$

$$36 : 6 = 30 : 5, \text{ \&c.}$$

The sixth part of twelve, of what is it the fifth part?

The fifth part of fifteen, of what is it the sixth part?

The sixth part of twenty-four, of what is it the fifth part?
&c.

$$a : b = c \times d$$

$$96 : 8 = 3 \times 4$$

$$128 : 8 = 4 \times 4$$

$$160 : 8 = 5 \times 4$$

$$192 : 8 = 6 \times 4$$

$$224 : 8 = 7 \times 4$$

$$256 : 8 = 8 \times 4$$

$$288 : 8 = 9 \times 4, \text{ \&c.}$$

The eighth part of ninety-six, how many fours?

Four fours, of what are they the eighth part?

The eighth part of one hundred and sixty, how many fours? &c.

$$a \times b \times c = d \times e$$

$$3 \times 6 \times 8 = 9 \times 16$$

$$4 \times 6 \times 8 = 12 \times 16$$

$$5 \times 6 \times 8 = 15 \times 16$$

$$6 \times 6 \times 8 = 18 \times 16$$

$$7 \times 6 \times 8 = 21 \times 16$$

$$8 \times 6 \times 8 = 24 \times 16, \text{ \&c.}$$

Three times six times eight, how many times sixteen?

Twelve times sixteen, how many times four times six? or

Twelve times sixteen, how many times four times eight? or

Twelve times sixteen, how many times six times eight?
 Five times six times eight, how many times sixteen? &c.

$$\begin{array}{l} a : b : c = d : e \\ \hline 48 : 3 : 2 = 72 : 9 \\ 54 : 3 : 2 = 81 : 9 \\ 60 : 3 : 2 = 90 : 9 \\ 66 : 3 : 2 = 99 : 9 \\ 72 : 3 : 2 = 108 : 9 \\ 78 : 3 : 2 = 117 : 9 \\ 84 : 3 : 2 = 126 : 9 \\ 90 : 3 : 2 = 135 : 9, \text{ \&c.} \end{array}$$

The half of the third part of forty-eight, of what is it the ninth part?

The ninth part of eighty-one is the half of the third part of what?

The half of the third part of sixty is the ninth part of what? &c.

$$\begin{array}{l} a \times b : c = d \times e \\ \hline 6 \times 16 : 3 = 4 \times 8 \\ 9 \times 16 : 3 = 6 \times 8 \\ 12 \times 16 : 3 = 8 \times 8 \\ 15 \times 16 : 3 = 10 \times 8 \\ 18 \times 16 : 3 = 12 \times 8 \\ 21 \times 16 : 3 = 14 \times 8, \text{ \&c.} \end{array}$$

The third part of six times sixteen, how many times eight?

Six times eight is the third part of how many times sixteen?

The third part of twelve times sixteen, how many times eight? &c.

$$\begin{array}{l} a : b \times c = d \times e \\ \hline 18 : 3 \times 5 = 3 \times 10 \\ 24 : 3 \times 5 = 4 \times 10 \\ 30 : 3 \times 5 = 5 \times 10 \\ 36 : 3 \times 5 = 6 \times 10 \\ 42 : 3 \times 5 = 7 \times 10 \end{array}$$

$$48 : 3 \times 5 = 8 \times 10$$

$$54 : 3 \times 5 = 9 \times 10, \&c.$$

Five times the third part of eighteen, how many times ten?

Four times ten is five times the third part of what?

Five times the third part of thirty, how many times ten?

&c.

$$a : b : c = d \times c$$

$$54 : 3 : 2 = 3 \times 3$$

$$72 : 3 : 2 = 4 \times 3$$

$$90 : 3 : 2 = 5 \times 3$$

$$108 : 3 : 2 = 6 \times 3$$

$$126 : 3 : 2 = 7 \times 3$$

$$144 : 3 : 2 = 8 \times 3, \&c.$$

The half of the third part of fifty-four, how many times three?

Four times three is the half of the third part of what? &c.

$$a \times b \times c = d : e$$

$$6 \times 7 \times 2 = 252 : 3$$

$$9 \times 7 \times 2 = 378 : 3$$

$$12 \times 7 \times 2 = 504 : 3$$

$$15 \times 7 \times 2 = 630 : 3$$

$$18 \times 7 \times 2 = 756 : 3$$

$$21 \times 7 \times 2 = 882 : 3, \&c.$$

Six times seven times two, of what is it the third part?

The third part of three hundred and seventy-eight, how many times seven times two, or nine times two, or nine times seven, &c.

$$a \times b : c = d : e$$

$$9 \times 6 : 2 = 81 : 3$$

$$10 \times 6 : 2 = 90 : 3$$

$$11 \times 6 : 2 = 99 : 3$$

$$12 \times 6 : 2 = 108 : 3$$

$$13 \times 6 : 2 = 117 : 3$$

$$14 \times 6 : 2 = 126 : 3, \&c.$$

The half of nine times six is the third part of what?

The third part of ninety is the half of six times what? &c.

$$a : b \times c = d : e$$

$$18 : 3 \times 8 = 288 : 6$$

$$21 : 3 \times 8 = 336 : 6$$

$$24 : 3 \times 8 = 384 : 6$$

$$27 : 3 \times 8 = 432 : 6$$

$$30 : 3 \times 8 = 480 : 6$$

$$33 : 3 \times 8 = 528 : 6$$

Eight times the third part of eighteen is the sixth part of what?

The sixth part of three hundred and thirty-six is eight times the third part of what?

$$a \times b \times c = d \times e \times f$$

$$12 \times 18 \times 14 = 16 \times 9 \times 21$$

$$15 \times 18 \times 14 = 20 \times 9 \times 21$$

$$18 \times 18 \times 14 = 24 \times 9 \times 21$$

$$21 \times 18 \times 14 = 28 \times 9 \times 21$$

$$24 \times 18 \times 14 = 32 \times 9 \times 21$$

$$27 \times 18 \times 14 = 36 \times 9 \times 21, \&c.$$

Twelve times eighteen times fourteen, how many times sixteen times nine, or sixteen times twenty-one, or nine times twenty-one?

Twenty times nine times twenty-one, how many times fifteen times eighteen, or fifteen times fourteen, or eighteen times fourteen? &c.

$$a : b : c = d : e : f$$

$$96 : 3 : 2 = 320 : 4 : 5$$

$$102 : 3 : 2 = 340 : 4 : 5$$

$$108 : 3 : 2 = 360 : 4 : 5$$

$$114 : 3 : 2 = 380 : 4 : 5$$

$$120 : 3 : 2 = 400 : 4 : 5$$

$$126 : 3 : 2 = 420 : 4 : 5, \&c.$$

The half of the third part of ninety-six is the fifth of the fourth part of what?

The fifth of the fourth part of three hundred and forty is the half of the third part of what? &c.

$$a \times b : c = d \times e \times f$$

$$12 \times 12 : 3 = 4 \times 3 \times 4$$

$$15 \times 12 : 3 = 5 \times 3 \times 4$$

$$18 \times 12 : 3 = 6 \times 3 \times 4$$

$$21 \times 12 : 3 = 7 \times 3 \times 4$$

$$24 \times 12 : 3 = 8 \times 3 \times 4$$

$$27 \times 12 : 3 = 9 \times 3 \times 4$$

$$30 \times 12 : 3 = 10 \times 3 \times 4, \&c.$$

The third part of twelve times twelve, how many times three times four?

Five times three times four is the third part of how many times twelve? &c.

$$a : b \times c = d \times e \times f$$

$$27 : 3 \times 4 = 6 \times 3 \times 2$$

$$36 : 3 \times 4 = 8 \times 3 \times 2$$

$$45 : 3 \times 4 = 10 \times 3 \times 2$$

$$54 : 3 \times 4 = 12 \times 3 \times 2$$

$$63 : 3 \times 4 = 14 \times 3 \times 2$$

$$72 : 3 \times 4 = 16 \times 3 \times 2, \&c.$$

Four times the third part of twenty seven, how many times three times two?

Eight times three times two is four times the third part of what?

$$a : b : c = d \times e \times f$$

$$288 : 3 : 4 = 2 \times 3 \times 4$$

$$432 : 3 : 4 = 3 \times 3 \times 4$$

$$576 : 3 : 4 = 4 \times 3 \times 4$$

$$720 : 3 : 4 = 5 \times 3 \times 4$$

$$864 : 3 : 4 = 6 \times 3 \times 4$$

$$1008 : 3 : 4 = 7 \times 3 \times 4$$

$$1152 : 3 : 4 = 8 \times 3 \times 4, \&c.$$

The fourth part of the third part of two hundred and eighty-eight, how many times three times four?

Three times three times four is the third part of the fourth part of what? &c.

Having illustrated the method of mental calculation in

integers, so as to enable any teacher to sketch out a well-connected course of exercises for his pupils, we shall, before proceeding to fractions, give some few details of the analytical course, which, as we have already stated, ought to be gone through at the same time; and for this purpose request our readers to recall to their minds the exercises on what might be termed a multiplication table of visible objects, which form the beginning of our instruction in numbers. It will be recollected that the pupil was then called upon to observe the relations which different numbers bear to each other, as factors and products, which process, gone through in a different order, forms the beginning of the analytical course. The pupil has certain numbers given him, which he is desired to analyse, or, in language more familiar to the child's mind, to find out in what manner they can be made. This may be done, at first, with strokes on the slate, for instance,

$$\begin{array}{l} 4 = 2 \times 2 \quad | \quad | \quad | \quad | \\ 9 = 3 \times 3 \quad | \quad | \quad | \quad | \quad | \quad | \quad | \quad | \\ 25 = 5 \times 5 \quad | \quad | \quad | \quad | \quad | \quad | \quad | \quad | \quad | \quad | \quad | \quad | \quad | \quad | \end{array}$$

The above three numbers admit only of one analysis, or can only be made in one way each. Next the child should have such numbers given him, as can be analysed in 2, 3, 4, 5, &c. different ways. For the sake of illustration, we subjoin the numbers within one hundred, in the order in which they should be given to the pupils.

Two ways.

$$\begin{array}{ccccc} \underline{8.} & \underline{27.} & \underline{6.} & \underline{10.} & \underline{15.} \\ 2 \times 4 & 3 \times 9 & 2 \times 3 & 2 \times 5 & 3 \times 5 \\ 4 \times 2 & 9 \times 3 & 3 \times 2 & 5 \times 2 & 5 \times 3 \end{array}$$

Three ways.

$$\begin{array}{ccc} \underline{16.} & & \underline{81.} \\ 2 \times 8 ; 8 \times 2 & & 3 \times 27 ; 27 \times 3 \\ 4 \times 4 & & 9 \times 9 \end{array}$$

Four ways.

$$\begin{array}{cccc} \underline{32.} & \underline{12.} & \underline{18.} & \underline{20.} \\ 2 \times 16 ; 16 \times 2 & 2 \times 6 ; 6 \times 2 & 2 \times 9 ; 9 \times 2 & 2 \times 10 ; 10 \times 2 \\ 4 \times 8 ; 8 \times 4 & 3 \times 4 ; 4 \times 3 & 3 \times 6 ; 6 \times 3 & 4 \times 5 ; 5 \times 4 \end{array}$$

<u>45.</u>	<u>50.</u>	<u>75.</u>
$3 \times 15; 15 \times 3$	$2 \times 25; 25 \times 2$	$3 \times 25; 25 \times 3$
$5 \times 9; 9 \times 5$	$5 \times 10; 10 \times 5$	$5 \times 15; 15 \times 5$

Five ways.

<u>64.</u>
$2 \times 32; 32 \times 2$
$4 \times 16; 16 \times 4$
8×8

Six ways.

<u>24.</u>	<u>40.</u>	<u>54.</u>	<u>30.</u>
$2 \times 12; 12 \times 2$	$2 \times 20; 20 \times 2$	$2 \times 27; 27 \times 2$	$2 \times 15; 15 \times 2$
$3 \times 8; 8 \times 3$	$4 \times 10; 10 \times 4$	$3 \times 18; 18 \times 3$	$3 \times 10; 10 \times 3$
$4 \times 6; 6 \times 4$	$5 \times 8; 8 \times 5$	$6 \times 9; 9 \times 6$	$5 \times 6; 6 \times 5$

Seven ways.

<u>36.</u>	<u>100.</u>
$2 \times 18; 18 \times 2$	$2 \times 50; 50 \times 2$
$3 \times 12; 12 \times 3$	$4 \times 25; 25 \times 4$
$4 \times 9; 9 \times 4$	$5 \times 20; 20 \times 5$
6×6	10×10

Eight ways.

<u>48.</u>	<u>80.</u>
$2 \times 24; 24 \times 2$	$2 \times 40; 40 \times 2$
$3 \times 16; 16 \times 3$	$4 \times 20; 20 \times 4$
$4 \times 12; 12 \times 4$	$5 \times 16; 16 \times 5$
$6 \times 8; 8 \times 6$	$8 \times 10; 10 \times 8$

Ten ways.

<u>72.</u>	<u>96.</u>	<u>60.</u>	<u>90.</u>
$2 \times 36; 36 \times 2$	$2 \times 48; 48 \times 2$	$2 \times 30; 30 \times 2$	$2 \times 45; 45 \times 2$
$3 \times 24; 24 \times 3$	$3 \times 32; 32 \times 3$	$3 \times 20; 20 \times 3$	$3 \times 30; 30 \times 3$
$4 \times 18; 18 \times 4$	$4 \times 24; 24 \times 4$	$4 \times 15; 15 \times 4$	$5 \times 18; 18 \times 5$
$6 \times 12; 12 \times 6$	$6 \times 16; 16 \times 6$	$5 \times 12; 12 \times 5$	$6 \times 15; 15 \times 6$
$8 \times 9; 9 \times 8$	$8 \times 12; 12 \times 8$	$6 \times 10; 10 \times 6$	$9 \times 10; 10 \times 9$

After the pupil has discovered all the different ways of analysing the above numbers into two factors, he is next to

be led to analyse them into three factors. Taking eight, for instance, the child may be asked to put down eight with cubes, or strokes, in two fours, as before.

| | | | | | | |

The next question will be; And how did you make four?
Answer: by two twos.

Well, then, make the first four here into two twos; and now the other; which will present the strokes in the following manner:

| | | | | | | |

The teacher then proceeds: What have you here? (pointing to the 2×2 on the left.) Answer: two twos.

And here? (pointing to the other 2×2 .) Answer: two twos.

How many two twos altogether? Answer: two two twos; or twice two twos.

In the same manner twelve may be analysed into three factors, as follows:

$2 \times 2 \times 3$ (twice twice three; or twice two threes),

| | | | | | | | | | | |

$2 \times 3 \times 2$ (twice three times two; or twice three twos),

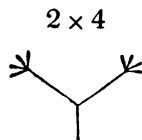
| | | | | | | | | | | |

$3 \times 2 \times 2$ (three times twice two; or three times two twos),

| | | | | | | | | | | |

The same analysis may be illustrated in a manner still more instructive, by representing the different factors as branching out from each other, as the following diagrams of the numbers eight and twelve will show.

Eight.



<u>45.</u>	<u>50.</u>	<u>75.</u>
$3 \times 15; 15 \times 3$	$2 \times 25; 25 \times 2$	$3 \times 25; 25 \times 3$
$5 \times 9; 9 \times 5$	$5 \times 10; 10 \times 5$	$5 \times 15; 15 \times 5$

Five ways.

64.

$$2 \times 32; 32 \times 2$$

$$4 \times 16; 16 \times 4$$

$$8 \times 8$$

Six ways.

<u>24.</u>	<u>40.</u>	<u>54.</u>
$2 \times 12; 12 \times 2$	$2 \times 20; 20 \times 2$	$2 \times 27; 27 \times 2$
$3 \times 8; 8 \times 3$	$4 \times 10; 10 \times 4$	$3 \times 18; 18 \times 3$
$4 \times 6; 6 \times 4$	$5 \times 8; 8 \times 5$	$6 \times 9; 9 \times 6$

Seven ways.

<u>36.</u>	<u>100.</u>
$2 \times 18; 18 \times 2$	$2 \times 50; 50 \times 2$
$3 \times 12; 12 \times 3$	$4 \times 25; 25 \times 4$
$4 \times 9; 9 \times 4$	$5 \times 20; 20 \times 5$
6×6	10×10

Eight ways.

<u>48.</u>	<u>80.</u>
$2 \times 24; 24 \times 2$	$2 \times 40; 40 \times 2$
$3 \times 16; 16 \times 3$	$4 \times 20; 20 \times 4$
$4 \times 12; 12 \times 4$	$5 \times 16; 16 \times 5$
$6 \times 8; 8 \times 6$	$8 \times 10; 10 \times 8$

Ten ways.

<u>72.</u>	<u>96.</u>	<u>60.</u>
$2 \times 36; 36 \times 2$	$2 \times 48; 48 \times 2$	$2 \times 30; 30 \times 2$
$3 \times 24; 24 \times 3$	$3 \times 32; 32 \times 3$	$3 \times 20; 20 \times 3$
$4 \times 18; 18 \times 4$	$4 \times 24; 24 \times 4$	$4 \times 15; 15 \times 4$
$6 \times 12; 12 \times 6$	$6 \times 16; 16 \times 6$	$5 \times 12; 12 \times 5$
$8 \times 9; 9 \times 8$	$8 \times 12; 12 \times 8$	$6 \times 10; 10 \times 6$

After the pupil has
analysing the above

the factors.

actors.

different cases of ana-
may next be called
e to their general
That classifica-
hole of the num-

Numbers analysed.	Number of factors.					Total number of ways.
	2	3	4	5	6	
4 } 9 } 25 }	1	—	—	—	—	1
6 } 10 } 15 }	2	—	—	—	—	2
8 } 27 }	2	1	—	—	—	3
12 } 18 } 20 } 45 } 50 } 75 }	4	3	—	—	—	7
16 } 81 }	3	3	1	—	—	7
30	6	6	—	—	—	12
32	4	6	4	1	—	15
24 } 40 } 54 }	6	9	4	—	—	19
36 } 100 }	7	12	6	—	—	25
64	5	10	10	5	1	31
60 } 90 }	10	21	12	—	—	43
48 } 80 }	8	18	16	5	—	47
72	10	27	28	10	—	75
96	10	30	40	25	6	111

The attention of the pupil may now be called to the sorts of factors of which each number is composed when analysed to the utmost extent of which it is capable. He will then find, that in this respect he has three sorts of numbers in the table, viz.

1. Such as are composed only of one sort of factors.

(a) of twos, 4, 8, 16, 32, 64.

(b) of threes, 9, 27, 81.

(c) of fives, 25.

2. Such as are composed of two sorts of factors.

(a) of twos and threes, 6, 12, 18, 24, 54, 36, 48, 72, 96.

(b) of twos and fives, 10, 20, 50, 40, 80, 100.

(c) of threes and fives, 15, 45, 75.

3. Such as are composed of three sorts of factors.

30, 60, 90.

After this the pupil may pursue the analysis of each of these sorts independently, as far as the teacher may think it necessary, taking the numbers of each sort in the order pointed out in the tables on p. 289 and 290. Before, however, he be allowed to proceed much farther, he ought to be led to investigate the law of transpositions, a knowledge of which will greatly facilitate the analysis of the higher numbers. For this purpose counters, or wafers, of different colours, will be found very serviceable, the pupil being thus enabled, in a manner the most striking to his eye, to survey the different arrangements of which a given number of objects, some similar and some dissimilar, or all dissimilar, is capable. For instance, if the question be, how many transpositions are possible of three objects of one kind and two of another, the pupil ought to be supplied with a sufficient number of red and yellow wafers, to set out his problem in the following manner :

RRYY	RRYR	RYRR	YRRR
YYRR	YRYR	YRRY	
RYRR	RYRY		
RRYY			

This problem once solved, will supersede the necessity of his going through all the changes possible with any set of factors which he may meet with in his analysis, analogous to the given set of wafers. For instance, taking the case in hand for an example, the pupil would find among the numbers already analysed the following set of factors.

In the analysis of 72:

$$2 \times 2 \times 2 \times 3 \times 3.$$

Proceeding with the numbers beyond 100, he would find, in the analysis of 128,

$$2 \times 2 \times 2 \times 4 \times 4;$$

in the analysis of 288,

$$2 \times 2 \times 2 \times 6 \times 6;$$

in the analysis of 432,

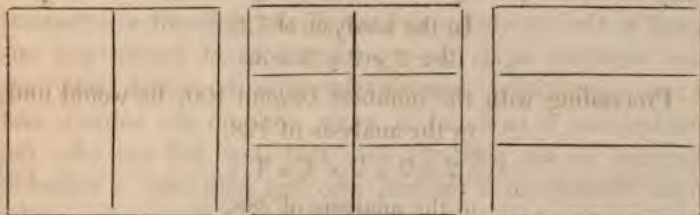
$$3 \times 3 \times 3 \times 4 \times 4;$$

and in each of these cases he would at once know, that the given set of factors is capable of ten changes. In this manner the law of transpositions ought to be connected throughout with the analysis of numbers, which will afford the teacher numberless opportunities of exercising the ingenuity, and drawing forth the minds of his pupils. Into this subject, however, we cannot, without swelling a single chapter to the size of a volume, enter any farther, and we must content ourselves for the present with appropriating the little space we have left, to a few hints on the manner of teaching fractions.

For this purpose we would strongly recommend the use of the fractional squares, described in the extract which we have given from Pestalozzi, with this difference only, that instead of placing them in mechanical succession, halves, thirds, fourths, &c., as was the case in Pestalozzi's fraction tables, we would arrange them in an order similar to that which we have observed with the integers.

Thus, for instance, we would exercise the pupil, first in the division of the square into halves, fourths, eighths, &c., and lead him to compare those different fractions, with a view to discover the proportions which they bear to each other.

Next we would take thirds and ninths; and after that, comparing halves and thirds, we would take up the sixths as the medium of comparison. This would be done by laying before the pupil three fractional squares of the same dimensions, but differently divided, as follows:



Here the pupil at once perceives, that one half is equal to three sixths, and one third to two sixths, from which, if he have gone through the exercises of mental arithmetic which we have pointed out, he will at once abstract that one half is equal to one third, and the half of a third.

In like manner the system of decimal fractions ought to be taught upon the ground of intuition, by using squares divided into ten, a hundred, a thousand, &c. parts, and comparing them to every other species of fractions. The pupil having by these means acquired a perfectly clear notion of the nature of fractions generally, and of each kind of fraction in particular, a course of mental calculation in fractions, and afterwards in numbers mixed of integers and fractions, ought to be sketched out, analogous to that of which we have given an outline as regards integers.

The same principles which we have illustrated with reference to integral and fractional calculation, apply also to the farther pursuit of the science of calculable quantities through the different operations of algebra. In each case the pupil ought first to be made thoroughly acquainted with the nature of the subject in hand, by illustrations which appeal to the evidence of his senses; and when this has been accomplished, and the mind has, by practice, been familiarized with

the operations involved in it, then, and not till then, it will be of advantage to the child to introduce him to those signs, by which he will be enabled to abridge his proceedings, in cases where he has no other object than to arrive at the result by the shortest way. We have not thought it necessary to say any thing concerning the mode of introducing the pupil to the knowledge and use of the different arithmetical and algebraic signs, the representations of known and unknown quantities, because the rules by which they are worked, are to be found in every work on the subject, and because we are perfectly sure that they will not offer the least difficulty to a teacher, who has with only a tolerable degree of ability and attention initiated his pupils in the nature of number according to the plan proposed by us. All that we have to add, therefore, is, that for the application of the laws of number to practical purposes, such questions ought to be selected, as are founded upon data, in themselves interesting and instructive, such as will relieve the pupil from the dulness of dead ciphering. The different sciences present inexhaustible treasures of this kind, and if we ever find leisure to publish a manual of number, we shall not fail to add so essential an appendage.

CHAPTER XXVI.

Method of Teaching Form;—Geometry and Drawing.

WE have determined upon connecting these two subjects together in one chapter, because the remarks of Pestalozzi, which we wish to bring under the notice of our readers, apply to them both as comprehended under the head form. He subdivides that head, it is true, into three sections, "the art of measuring," "the art of drawing," and "the art of writing;" but, abstracting from the latter, which has already found its place in our arrangement, the two former are so intermingled in his view, that he says as much on measuring in the section on drawing, as he says on drawing in the section on measuring. This arises from his attention not being properly directed to the distinction between real and apparent form, the one falling under the province of geometry, and the other of perspective. To him there was no other difference between measuring and drawing, than that which exists between the first and second step of the same operation. Measuring he considered as the art of apprehending, and drawing as that of representing, correctly the outline of any given object; but it did not strike him, at least not forcibly, that the outline of an object, such as it appears to the eye, and is represented on paper, is a very different outline from that which forms the subject of investigation in geometry. Notwithstanding the want of clearness on that particular head, the following remarks will not be read without interest:

"It is obvious, but altogether overlooked in general, that practical facility

in measuring things ought to precede every attempt at drawing; or, at least, that we can draw successfully so far only as we are capable of measuring. The common mode of proceeding, on the contrary, is to begin with an incorrect view, and a crooked representation of the object; to expunge and draw again, and to repeat this tedious process, until by degrees an instinctive sort of feeling of the proportions is awakened. Then, at length, we proceed to what we ought to begin with, viz. measuring.

"Our artists have no elements of measure; but by long practice they acquire a greater or less degree of precision in seizing and imitating outlines, by which the necessity of measuring is superseded. Each of them has his own peculiar mode of proceeding, which, however, none of them is able to explain. Hence it is, that if he comes to teach others, he leaves his pupils to grope in the dark, even as he did himself, and to acquire, by immense exertion and great perseverance, the same sort of instinctive feeling of proportions. This is the reason why art has remained exclusively in the hands of a few privileged individuals, who had talent and leisure sufficient to pursue that circuitous road. And yet the art of drawing ought to be an universal acquirement, for the simple reason that the faculty for it is universally inherent in the constitution of the human mind. This can, at all events, not be denied by those, who admit that every individual born in a civilized country has a claim to instruction in reading and writing. For let it be remembered, that a taste for measuring and drawing is invariably manifesting itself in the child, without any assistance of art, by a spontaneous impulse of nature; whereas the task of learning to read and write is, on account of its toilsomeness, so disagreeable to children, that it requires great art, or great violence, to overcome the aversion to it which they almost generally evince; and that, in many instances, they sustain a greater injury from the means adopted in gaining their attention, and enforcing their application, than can ever be repaired by the advantages accruing to them from the possession of those two mechanical acquirements. In proposing, however, the art of drawing, as a general branch of education, it is not to be forgotten, that I consider it as a means of leading the child from vague perceptions to clear ideas. To answer this purpose it must not be separated from the art of measuring. If the child be made to imitate objects, or images of objects, before he has acquired a distinct view of their proportions, his instruction in the art of drawing will fail to produce upon his mental development that beneficial influence which alone renders it worth learning."

No one that has seen the drudgery and bad taste of common drawing lessons, or has attempted to penetrate the mysteries of perspective by the aid of our "standard works" on that subject, will deny the truth of these remarks; and as Pestalozzi's account of his own mode of proceeding in the

joint-instruction of measuring and drawing is very compendious, we may venture to insert it at full length.

"The pupil," he says, "is first made acquainted with the straight line, by itself, in the various positions in which it can be placed, and the different views that can be taken of it; he is taught to denominate it accordingly as a perpendicular, an horizontal, a slanting line, and the latter as slanting upwards and downwards to the right and to the left. Two lines are then placed parallel with each other, and by varying their position he learns to distinguish perpendicular parallels, horizontal parallels, and different sorts of slanting parallels. The next step is to place two lines converging, so as to form an angle, and he has again to learn the distinction of right angles, acute angles, and obtuse angles. After this the square is laid before him, and divided into halves, fourths, sixths, &c.; the circle is drawn next, with its oblong modifications, and these likewise are divided in a variety of ways.

"All this is to be done, as an exercise for the eye, without having recourse to mathematical instruments, and the following names are to be learned along with the respective figures and their divisions: the square, the horizontal, and perpendicular rectangle; the curve, the circle, the semicircle, the quadrant, first oval, second oval, third oval, fourth oval, &c. halves of the ovals, quarters of the ovals, &c.

"This being accomplished, the child is to be introduced to the relative proportions of these forms, and to learn to use them for the purpose of measuring. To this the mother's book contains preparatory exercises, as a variety of objects are there presented to the child's view, exemplifying in their outlines the square, the rectangle, the circle, the oval, &c. After this the different figures of the alphabet of forms are put into his hands, cut out of cardboard, with their names attached to them, in order to render him familiar with each particular form, and to enable him to institute comparisons.

"The next step is to make the application of that knowledge of language and number, which the pupil has acquired by the course prescribed in the mother's manual, to the combination of the different figures of the alphabet of forms, and the determination and expression of their relative numerical value.

"This is to be followed by the exercise of drawing himself the different figures, which will not only render his idea of them more clear and distinct, but also give him a practical ability in the general elements of drawing. This must be connected with exercises of language on the proportions of the different figures; for instance, the height of this perpendicular rectangle is twice its breadth; the length of this horizontal rectangle is twice its height, and so on through all the figures and their divisions. This presupposes, of course, that they should all be executed upon one fundamental scale, and that the divisions should be so made as to afford a medium of comparison

for the most dissimilar figures. In this course the attention is also to be directed to the different directions of the lines, and the nature of the angles arising out of their combination, as well as to the relation between the circle and oval, their different sections, and the parts of the square or rectangle in which they are enclosed.

"By these progressive exercises, the intuitive faculties are developed in conformity to the laws of form, or what means the same, educated in the art of measuring, which, as an elementary preparation, ought to precede the usual methods of drawing. Every child is thus enabled, by the simplest means that can be imagined, to form a correct idea of the outline, and the position of any object in nature, and to express his view of it in precise terms. He has the means of comparing, not only the different dimensions of every outline that occurs to him, with each other, but also the whole outline with the square, the circle, or their essential divisions and modifications, so as to determine its deviations from the standard form by the nature of its angles and curves. The alphabet of forms, moreover, furnishes him with terms, by means of which he may clearly describe such deviations. The further cultivation of the art of drawing, of which this course only contains the first rude attempts, leads to a corresponding progress in the art of measuring, by which the pupil will at last acquire the greatest facility in determining the proportions even of the most complicated objects, without having recourse to the actual process of measuring.

"It is hardly credible to what degree of mental development this proceeding leads even children of middling capacities. On this subject I will not be called a visionary. I have taught children upon this plan, and my theory is nothing else than the result of my successful experiments. 'Come and see.' My children are not, it is true, much past the threshold of this method; but the short progress they have made is so decisive, that it requires a peculiar turn of mind to watch my pupils, and yet to resist conviction. And this is, after all, but very natural."

In pursuance of the plan which we have laid down for ourselves, we shall now proceed to furnish our readers with some details illustrative of the general principles on which the instruction in geometry should be founded; excluding, from reasons which we have stated at the beginning of this chapter, the subject of drawing for the present. In order to have a perfectly clear view of his task, the teacher of geometry should bear in mind, that the objects of his instruction must necessarily be presented in a double aspect. In arithmetic, the science of calculable quantities, he had only to do with numerical proportions; but in geometry, which, taking the

word in its largest sense, is the science of measurable quantities, he has to consider both numerical, and what might be called, if the term were not already idiomatically appropriated, *metrical* proportions. In fact, instruction in geometry presupposes, to a certain extent, the knowledge of number, and involves, throughout, a practical application of that knowledge to the peculiar objects under consideration. Thus, for instance, taking the question, what angles will result from the combination of two straight lines; it is evident that it ought to be divided into two distinct questions, viz.

1. How many angles can be formed with two straight lines?

2. What sorts of angles may, or must they be?

The operation of mind, by which we ascertain, in answer to the first question, that with two straight lines we may form either one, or two, or four angles, is very different from that by which we find, that if we form two or four angles with two straight lines, those angles will be either equal or unequal, which leads at once to the distinction between right angles on one hand, and obtuse and acute angles on the other; and farther, that if two angles formed by two straight lines are unequal, one must necessarily be obtuse, and the other acute; that four angles formed by two straight lines cannot all be unequal, but that two pairs of equal ones must of necessity be formed, and that the position of each angle between the pair from which it differs, is with equal necessity determined; lastly, that if there be only one angle formed by two straight lines, that angle may be either a right, or an obtuse, or an acute angle.

It is again a question of number, to find how many corners are formed in each of the three cases; viz. one, if there be one angle, and none, if there be two or four. But it is a question of measure to ascertain, that the corner which corresponds to the one angle, can, by the greatest possible stretch of that angle, never be reduced to the measure of two right angles; that if the angle be a right one, the measure of the corresponding corner must necessarily be three right angles;

and that if the angle be an acute one, the corner must exceed that measure. Thus, in every geometrical question that can be proposed, a numerical question is inevitably involved, and the clearness with which the pupil shall answer the former, greatly depends upon his having previously solved the latter. It does not, however, follow from this, that the two aspects of the question must always be brought as near together, as they appear in the above example; on the contrary, it will be advisable to let the pupil observe a series of numerical facts, in order that he may collect them under one view, and, if he be capable of it, comprehend them under one general rule, before his attention be at all directed to the geometrical part of the question.

The first general head of exercises, for instance, which ought to be taken up as soon as the child is familiar with the preliminary ideas of point, line, figure, and body, of straight and curve, of perpendicular, horizontal, slanting, &c. is the question: What lines can be drawn between any given number of points? In order to make this question available for instruction, the teacher ought to break it up into a great number of subordinate questions, first with reference to number only, and afterwards with reference to measure. Under given conditions, which by degrees should become more complicated, he ought to present increasing numbers of points, always returning to the question: How many lines can be drawn between so many points so placed? The nature and order of these questions will best be understood from the following table of the answers to which they would lead.

Placing a number of points so, that there shall never be more than two in the same direction, you can draw

1 line between 2 points,			
3 lines	-	3	-
6	-	4	-
10	-	5	-
15	-	6	-
21	-	7	-
28	-	8	-

36 lines between 9 points,
 45 - - 10 - &c.

Placing a number of points so, that there shall be three of them in one direction, and the remaining ones never more than two in the same direction, you can draw

1 line with 3 points,
 4 lines - 4 -
 8 - - 5 -
 13 - - 6 -
 19 - - 7 -
 26 - - 8 -
 34 - - 9 -
 43 - - 10 - &c.

Placing a number of points so, that there shall be four of them in one direction, and the remaining ones never more than two in the same direction, you can draw

1 line with 4 points,
 5 lines - 5 -
 10 - - 6 -
 16 - - 7 -
 23 - - 8 -
 31 - - 9 -
 40 - - 10 - &c.

Placing a number of points so, that there shall be twice three points in one direction, and the remaining ones never more than two in the same direction, you can draw

11 lines with 6 points,
 17 - - 7 -
 24 - - 8 -
 32 - - 9 -
 41 - - 10 - &c.

Placing a number of points so, that five of them shall form two directions with three points in each, and the remaining ones so, that there shall never be more than two in the same direction, you can draw

6 lines with 5 points,
 11 - - 6 -

17 lines with 7 points

24 - - 8 -

32 - - 9 -

41 - - 10 - &c.

It is easy to perceive what a diversity of exercises may thus be deduced from one leading question, not to mention that the various positions in which any given number of points can be placed, form of themselves the subject of a number of interesting preliminary questions. After the teacher has, to a sufficient extent, pursued that part of the subject which refers to the possible number of lines, he should proceed to the question of their respective lengths, in proportion to the distances of their ends. He may, then, first ask: What is the highest number of points that can be placed so, that the lines between them shall all be of equal length?

The pupils having found that three is that number, he may then ask farther: If I have four points, what is the highest number of lines of the same length which I can obtain between them?

If I place them so as to obtain four equal lines between them, will the other two lines be longer or shorter, and what proportion will they bear to each other?

If I place four points so as to obtain three equal lines between them, and at the same time to have three of them in one direction, how many different lines may I obtain, and what will be the proportion of their length? &c.

In the same way questions are to be put respecting the number and extent of intervals and distances which arise out of any number of points. Say, for instance, a number of points be placed so as to have twice four points in the same direction, and the others so, that never more than two points be in the same direction, we shall find with

8 points, 28 distances, 22 intervals, 18 lines,

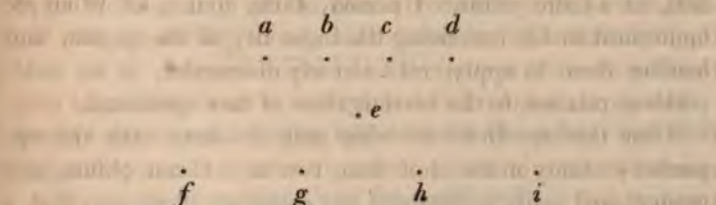
9 - 36 - 30 - 26 -

10 - 45 - 39 - 35 -

11 - 55 - 49 - 45 -

12 - 66 - 60 - 56 - &c.

and, according to the mode of distributing these points, the distances, intervals, and lengths, will bear different relations to each other. For instance, taking the case of nine points, let the four points of one direction be placed at equal distances, the second direction parallel to the first, at a distance from it equal to double the distance of the points on the first, and let the points on the second be twice the distance of those in the first direction; let, lastly, the ninth point be placed so that the distance between it and the two middle points of the first direction be equal to the distance between those two points, and that it be at the same time equidistant from the two middle points of the second direction, thus:



the pupil would find

a. Ten sorts of lines, in the following order, beginning from the shortest.

1. *be* and *ce*;—2. *ge* and *he*;—3. *ae* and *de*;—4. *ga*, *gb*, *hc*, and *hd*;—5. *fa*, *gc*, *hb*, and *id*;—6. *ad*;—7. *fe*, *ie*, *fb*, *gd*, *ha*, and *ic*;—8. *fc* and *ib*;—9. *fd* and *ia*;—10. *fi*.

b. Nine sorts of intervals, viz.

1. *ab*, *bc*, *cd*, *be*, and *ce*;—2. *ge* and *he*;—3. *ae* and *de*;—4. *fg*, *gh*, and *hi*;—5. *ga*, *gb*, *hc*, and *hd*;—6. *fa*, *gc*, *hb*, and *id*;—7. *fe*, *ie*, *fb*, *gd*, *ha*, and *ic*;—8. *fc* and *ib*;—9. *fd* and *ia*.

c. Eleven sorts of distances.

1. *ab*, *bc*, *cd*, *be*, and *ce*;—2. *ge*, and *he*;—3. *ae* and *de*;—4. *fg*, *gh*, *hi*, *ac*, and *bd*;—5. *ga*, *gb*, *hc*, and *hd*;—6. *fa*, *gc*, *hb*, and *id*;—7. *ad*;—8. *fe*, *ie*, *fb*, *gd*, *ha*, and *ic*;—9. *fc*, *ib*, *fh*, and *gi*;—10. *fd* and *ia*;—11. *fi*.

It will at once be seen that the mere exercise of picking out the various lengths, and the different lines, intervals, and distances, which belong to each length, is in itself calculated to

draw forth in the pupil's mind the power of measuring and comparing; and this will be the case in a still higher degree, if the teacher call upon the pupils to state the proportions in which the different lengths must be to each other, according to the given distribution of points; at least such as admit of direct ocular demonstration; for instance, the proportion of the distance ab to ac , or ad , or of fg to ad , or of ad to fh , fi , &c. The pupil will farther be enabled to assign reasons why some of the lines must necessarily be shorter than others, for instance, be than ge , gb than ge , &c.; why others must be equal, &c. Lastly, those proportions, the determination of which depends upon the laws of rectangles and diagonals, will, at a more advanced period of the course, afford ample opportunities for exercising the ingenuity of the pupils, and leading them to apply truth already discovered, in an independent manner, to the investigation of new questions.

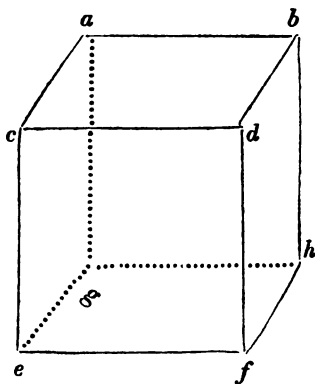
After this specimen of what may be done with the apparently scanty material of from two to a dozen points, our readers will easily understand our meaning, if we say, that a course of elementary geometry ought to be traced out in this manner, proceeding from points to straight lines, to rectilinear angles, figures, and bodies, in such a regular succession of lessons, that every following question shall only be a repetition, with a short additional step in advance, of what has previously been ascertained.

From time to time, and particularly after the different bearings of a new subject have been investigated in methodical order, the teacher ought to enter into a more diversified mode of questioning the pupils, in order to produce a readiness in the application of their knowledge analogous to that which in arithmetic is obtained by mental calculation. By way of illustration, we will suppose a cube to be the object of instruction, which would give rise to such questions as the following:

How many lines does this line meet? (pointing to any of the lines.)

And this? (pointing to another, and so on, till the pupils find that each line meets four other lines.)

For the better understanding of the subsequent questions, the figure of a cube is here inserted, and the lines to be pointed out by the teacher marked with letters.



At what part of this line (cd) do the other four lines meet it?

How many lines meet it at this end? (c .)

How many at the other end? (d .)

To which sides does this line (cd) belong?

How many of the lines, which this line (cd) meets, belong to the first of the two sides mentioned? ($cdef$.)

How many to the other? ($abcd$.)

Are there any sides besides these two ($cdef$ and $abcd$) to which any of the four lines meeting it, belong?

What portion of the circumference of this side ($cdef$) does this line (cd) occupy?

What portion of the circumference of this side? ($abcd$.)

What portion of the circumference of this side ($cdef$) do these three lines (cd , ce , and df), together form?

What portion of the circumference of this side ($abcd$) do these three lines (cd , ca , db) together occupy?

What portion of the circumference of this side ($abgh$) do these two lines (ab and bh) occupy?

What portion of the circumference of this side ($efgh$) do these two lines (ef and eg) occupy?

How many lines meet in this corner? (c.)

To how many different sides do they belong?

How many sides meet in this corner? (c.)

Are there any of the lines meeting in this corner (c) belonging to any other sides besides those three which meet in this corner?

How many lines meet in this corner? (d.)

And how many in this? (pointing to another, and so on, till the pupils find that three lines meet in each corner.)

How many sides, did you say, meet in this corner? (c.)

And how many in this (d)? (and so on, till the pupils find that there are three sides likewise meeting in each corner.)

How many corners are there on this body?

And how many lines meeting in each of these corners?

And how many sides meeting in each?

Then the number of sides is equal to that of the lines?

How many lines are there altogether on this body?

How many sides are there altogether on this body?

How many lines are there on each side?

How is it, that there being eight corners, and three lines meeting in each of the corners, there are yet in all but twelve lines?

How is it that there being eight corners, and three sides meeting in each of the corners, there are yet in all but six sides?

How is it, that there being four lines to each side, and six sides, there are in all but twelve lines?

How is it, that there being twelve lines, and to each line two sides, there are in all but six sides?

How is it that there being twelve lines, and at each end of each line one corner, there are in all but eight corners?

How many angles are there on this side?

And how many on this side? (and so on till they find that there are four angles to each side.)

How many angles are there adjoining this line? (and so on till they find that there are four angles to each line.)

How many angles are there meeting in this corner (c)? (and

so on, till they find that there are three angles meeting in each corner.)

How many angles altogether on the whole body?

How is it that, in multiplying the number of lines by the number of angles adjoining each line, you get double the real number of angles?

And how is it that by multiplying the number of sides by the number of angles on each side, or the number of corners by the number of angles meeting in each corner, you get the right number of angles?

How many points do you mark on this body?

How many lines do you mark on it?

Which of them is the longest?*

Can you think of any other lines between any of those eight points, besides these twelve?

Answer: from c to f , from d to a , from b to g , &c.

Are they longer or shorter than the former?

On what part of the body do you imagine them to be?

How many such lines can you think on each side?

How many from each corner point?

How many in all on the whole body?

Can you think of any other lines between any of the eight corner points?

Answer: from a to f , from b to e , from g to d , &c.

Are they longer or shorter than these lines? (ab , cd , &c.)

Are they longer or shorter than these lines? (cf , da , bg , &c.)

On what part of the body do you imagine them to be?

How many such lines can you draw from each of the corner points?

How many in all?

How is it, that there being eight corner points, and from each of them one such line, there are yet in all but four of these lines?

Taking the lines which you see, and the lines which you have imagined, together, how many sorts of lines have you?

* The reader will recollect that the teacher is exhibiting to his pupils a real and not a perspective cube, and that therefore the lines hitherto observed are all equal.

How many of the first sort?

How many of the second?

How many of the third?

How many lines altogether from each corner point?

How many of the first sort?

How many of the second?

How many of the third?

How many planes do you see on this body?

Can you think of any other planes within the lines you see and those you imagine?

Answer, for instance: the plane *abef*.

Is the plane which you imagine larger or smaller than those which you see?

By how many lines is it enclosed?

How many of the first sort?

How many of the second sort?

Can you think of any plane in this body, bounded by a line of the third sort? &c.

It is easy to see that a variety of other questions might be asked; those which have been suggested here, are, however, sufficient for the present purpose, which is to show the general drift of the instruction as designed upon this plan. It is hardly necessary to add, that every teacher would find himself obliged, in consequence of misapprehensions on the part of his pupils, to ask a variety of intermediate questions; and it is, likewise, evident that no teacher can go through the exercise with any chance of success, unless he have rendered his mind, in the first instance, perfectly familiar with the subject, so that he may not only have such questions as those here pointed out, and the answers to them, readily at hand, but that he may likewise be enabled to see at once, from what cause any misapprehension on the part of his pupils arises.

After the details which we have given, it will be sufficient to state that the different regular straight-lined bodies having been analysed in this manner, the teacher ought to proceed, in a second course, to an inquiry into the general rules for determining the relations and proportions ascertained hitherto,

experimentally, by inspection of the different objects. This would form a course of demonstrative geometry and stereometry, analogous to the preceding one, including an investigation of the rationale of both the facts, and the rules discovered.

The pupil having arrived at perfect clearness, as regards all the forms that have come under his consideration in this course, it will be time to introduce him to the circle, and to curves generally; leading him again through a progressive course of exercises, in which he shall be called upon first to ascertain the mere facts of the case; and secondly, to discover the abstract rule and the rationale both of the fact and the rule; that is to say, in popular language, the pupil is to find, first, how the thing is; secondly, how the thing may be ascertained; thirdly, why the thing is so, and why, therefore, any given method is a sure way of ascertaining it.

It will readily be perceived that a course of this kind would, of necessity, comprehend, in its different stages, all the problems which are to be found in the usual works on geometry, trigonometry, &c. with this difference, that it would present them all connected in so regular a line of progression from the less to the more difficult, that the pupil would not require having the mode of solution suggested to him, but would be enabled to solve of himself each question in an independent manner.

In connexion with this instruction in the laws of form, the pupil should have opportunities afforded him of applying those laws, practically, to real objects, by making him transfer lines, planes, &c. on paper, either on the same or on a diminutive scale; afterwards letting him draw groundplans of the room, the house, the yard, the garden, the forest, &c. by letting him cut out figures of different descriptions from pasteboard, and asking him to join them together under certain conditions, or, on the other hand, giving him a figure, and letting him cut it up into different other figures of given shapes and dimensions. He might also be taught to model out of pasteboard, or any other material fit for the purpose, geometrical and other

bodies, and *vice versâ*, he might be exercised in the measurement and division of bodies placed before him; and in drawing, besides groundplans, also elevations, sections, &c.

As regards the instruction in drawing, on which we stand pledged by the head of this chapter to say a few words, we would distinguish three different elements of the art, which ought to be separately cultivated, viz. 1, perspective, or the art of seizing and representing correctly the outline of any object; 2, the art of apprehending and representing in an harmonious manner the effect of light and shade; 3, the spirited touch, which gives to dead forms and hues the imprint of a living mind. The distinctive features and bearings upon each other of these three elements, exactly correspond to those of rhythm or time, melody, and expression, in music; the first is a matter of calculation, the second of feeling, and the third of character. Pestalozzi, in the work before us, has noticed only the first, and that not in a very satisfactory manner. We shall content, ourselves, therefore, by giving the following short extract:

"It is not to be supposed, that practical drawing ought to be postponed, until the instruction of the art of measuring has been carried through all the stages above described; on the contrary, the former ought to follow up the progress of the latter as closely as possible, beginning from the moment when the child is able to draw the horizontal and perpendicular lines, the first in the alphabet of forms, with ease and precision. The teacher should then select, from among the surrounding objects, such as are bounded chiefly by these lines, and make the pupil draw them. In proportion as the child attains greater facility in drawing these outlines, objects may be chosen which deviate from them in a greater degree. In pursuing this course of drawing, a similar progress is attained in this art, as in that of measuring by the method before described. The first task that is given to the child is so easy, that it is possible for him, with a moderate degree of exertion, to solve it perfectly; and the consciousness of his powers once awakened in him, will give him a taste for perfection, and a spirit of perseverance, which our modern teachers can never obtain, because their methods are inconsistent with the laws of human nature, as well as of the art which they profess. It is not a mere advantage in handling the pencil, which the child gains by my method; the improvement lies far deeper; it bears upon the faculties of the mind itself."

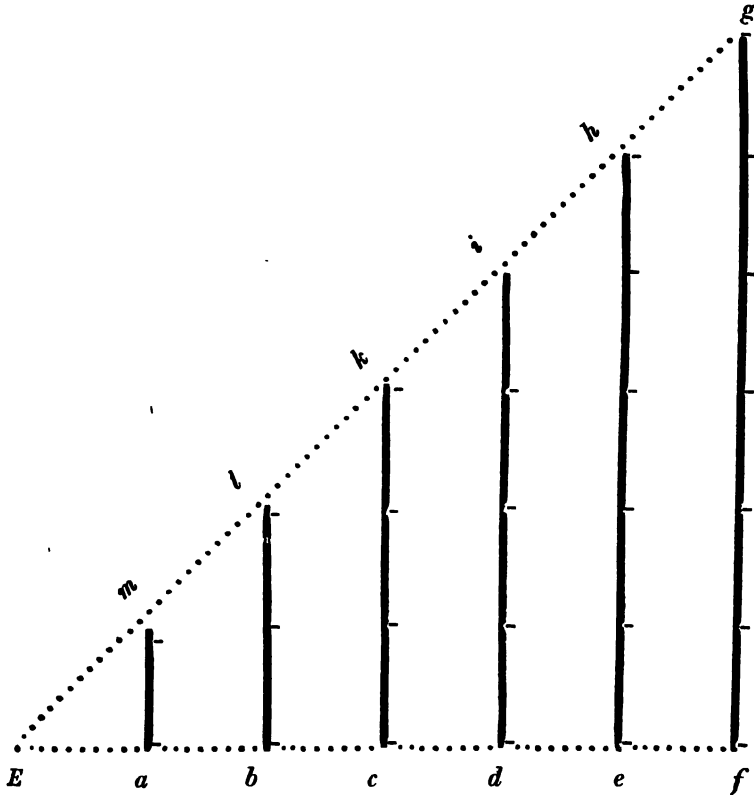
It is evident, here, that the alphabet of forms, which was a

sort of hobby of Pestalozzi's at the time he wrote this, materially obstructed his otherwise clear vision. He could see no forms at all except in and through that medium; and, whatever forms he might meet with in nature or art, he could only view them as combinations or modifications of those of his alphabet. Without calling in question the correctness of Pestalozzi's assertion, that his method of instruction in drawing was more improving to the mind than that commonly pursued, we are certainly of opinion that it was not calculated to lead the pupils to the distinction which lies at the very root of all perspective, and which, as we have hinted at the beginning of this chapter, seems not to have been very clearly established in Pestalozzi's own mind, viz. the distinction between the real and apparent outline of every object.

From the investigation which we have given to the subject, it appears to us, that the difference between the form of an object such as it really is, and the form of it such as it strikes the eye in any particular position, will be best perceived and most easily determined by the pupil, if he be enabled to reduce every question to a simple calculation of distances of parallel lines of three different sorts; viz. perpendicular, horizontal, parallel with the line of sight; and horizontal, at right angles with the line of sight, or, what would commonly, but rather improperly, be called parallel with the horizon. The ratio of apparent decrease in proportion to distance, of each of these three sorts of lines, ought to be separately ascertained, which being done, the pupil has the necessary data for the solution of any question of rectilinear, as well as curvilinear, bodies which may occur to him in practice.

As an example for illustration, we will take up the question of the apparent decrease of perpendicular lines. For this purpose the teacher ought to procure a number of objects representing straight lines, of lengths proportionate to each other; say six inches, twelve inches, eighteen inches, twenty-four inches, &c. These objects should be fixed in a perpendicular position, in one direction, at the distance of six inches

from each other; and, in the same direction, six inches behind the shortest of them, a small metal plate,—when this is not at hand, a piece of wood or strong pasteboard will do,—with an aperture for the eye in it, about as large as would allow a quill or pencil to be passed through. After this, two silk strings should be fixed at the upper and lower ends of the most distant line, and passed together through the aperture, when it will be evident, upon looking through, that these strings touch the ends of all the lines, and consequently, that although of different length in reality, they appear at any given point all equally long. If, therefore, a slate be placed by the side of the first line, and that line drawn on it, in its real length, the pupil will at once perceive, that if he is to draw any other of the lines given, on the same slate, he must draw it of that length which it appears to have at that distance from the eye, that is, as long as the first line. As it is difficult to fix mere wires, or thin sticks, so as to keep them steady in a perpendicular position, without a great deal of apparatus, it will generally be found most expedient to use the edges of books, or drawers, or of cubes of proportionate dimensions, provided they be sufficiently large. The experiment may be varied by placing first the lower, afterwards the upper ends, and lastly the middle of the different lines in a horizontal line with the eye; and the pupil will soon be convinced, that in all these cases the result, as regards the ratio of apparent decrease of length, is the same. The next step will be, to desire him to transfer the whole on his slate, or on paper, in a diagram like the following, in which the lower ends of the lines are supposed to be in one horizontal line with the eye.



The point *E* represents here the place of the eye; *Eg* and *Ef* the two silk strings. This diagram being completed, the teacher should ask such questions as are calculated to lead the pupils to the discovery of a general rule; for instance:

At what distance from the eye is the line *fg*?

Answer: its own distance.

At what part of that distance is the point *b* placed?

Answer: at one third of the distance of the line *fg*.

If I draw the line *fg*, as it appears at the distance of the point *b*, how much must I reduce its length.

Answer: to one third.

To draw the line *di*, as it appears at the distance of the point *c*, by how much must I reduce its length?

Answer: by one fourth, &c.

Being questioned in this manner, the pupil will soon perceive the analogy between the distance and the decrease of length, and without much difficulty discover the general rule, that in order to ascertain the apparent length of a line, you must divide its length by the quotient, obtained by dividing its real distance by the distance of the point at which it is drawn; or, divide its length by its distance, and multiply the quotient by the distance of the point at which it is drawn. In a similar manner, the ratio of decrease of the two sorts of horizontal lines ought to be investigated, which being done, the pupil will be able to draw any rectangular body in what is termed parallel perspective,—that is, the front of the body being at right angles with the line of sight,—with mathematical correctness, even without having the body placed before him, simply from the data of its dimensions, distance, elevation, &c.

After this no farther difficulty will be experienced, as every oblique line lies either between the angular points of a square or parallelogram, or between those of a cube or parallelopiped; and by the same means it is easy to determine any number of points which may be deemed necessary for the perspective of curves and curvilinear bodies. If, for instance, a cone be given, all the pupil has to do, is to imagine the square which would enclose its basis, and erect upon it, with the front parallel to the horizon, a parallelopiped, whose sides would be equal in height to the sectional height of the cone. The square of the base being then drawn in its perspective appearance, and the perspective centre of the top square determined,

the former will give the ellipse which forms the perspective base of the cone, and a straight line drawn from the centre of the top square, to each end of the longest diameter of that ellipse, completes the perspective outline. It is not intended, of course, that the pupils should always proceed with the rule and compass in their hands, in drawing; they are to be accustomed to determine distances and proportions with their eye; but, it is obvious, that they will do so with greater success, and above all with infinitely more intelligence, if they have previously ascertained the mathematical rules which are to guide them, than if they are proceeding on a mere guess, which, though by practice the character of "a rough guess" may gradually wear off, yet can never become an intelligent act, until the difference between real and apparent outline be thoroughly understood. And so far from cramping the hand by such a proceeding, it is clear that the teacher cannot more effectually promote its freedom, than by removing the cause of that timidity which must ever be consequent upon utter ignorance of the point to which any given line is to be drawn.

Having said thus much as regards the method of teaching perspective, we shall only add, with reference to the effect of light and shade, that in this also the pupil's self-observation should be called forth. He should be made to draw the same object in different positions, and under different lights, and these exercises continued until he have acquired such a familiarity with the laws of light, that he would be enabled to draw any given object in a stated position, and under a certain light, entirely from his mental conception of it, under the circumstances described. Lastly, the pupil should from time to time be allowed to exercise his own imagination in original composition, the teacher interfering no farther than by a progressive enlargement of the sphere within which he would permit him to choose his subjects.

Concerning the third element of the art of drawing, which we have termed "the spirited touch," we know too well that

genius alone can teach, and genius alone learn it, ever to dream of bringing it within the rules of system. Deeply as we are convinced of the advantages resulting from a methodical progress in instruction, we acknowledge that there is, with reference to every faculty of the mind, and every branch of knowledge or art, a lofty something, a gift from above, which no education can instil or draw forth, but only prepare the way for it, that its bright beams may not be obstructed by an opaque medium, when the time of its spontaneous effulgence shall have arrived.

CHAPTER XXVII.

*Method of Teaching Geography;—Branches of Instruction
connected with it.*

WE have already hinted, in an earlier part of this volume, that on the subject of geography the ideas put forth by Pestalozzi in his work, "How Gertrude Teaches her Little Ones," formed a complete contrast with his own principles: and we should, therefore, not swell the bulk of our publication by any extracts on the subject, were it not for the predilection which our age evinces on all occasions for superficial mechanical contrivances. If the letters from which we have selected the most practical parts, and embodied them in this sketch of the Pestalozzian method, should fall into the hands of any of those transcendental engineers, who are busying themselves in the construction of "new railways of intellect," and they should happen to alight upon a passage like that which we are about to quote, what an outcry would they not raise against us, for suppressing exactly those few solitary passages, in which Pestalozzi proved himself to be not "a mere theorist," but "a practical man," the only passages from which any "useful information" can be derived. Our wisdom, therefore, is, to be exceedingly honest, and produce ourselves what evidence there might be against us, if evidence it be, by inserting the following specimen of the manner in which our author proposed to initiate his children in "the treasures of language," which, as may be recollected from the twenty-second chapter, he divided under "four heads: geogra-

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science, and natural history," and under the cognizance of his pupils, by tables, with the words belonging to them in "alphabetical order."

He says, "the words contained in these tables are to be in merely alphabetical order, without the admixture of even in any order dictated by certain opinions." A question arises: 'What arrangement does the mind require of the peculiar nature of each subject?' A new task is given: seventy or eighty tables, the words of which were impressed upon the memory in merely alphabetical order, are subdivided according to different scientific points. Children are to be exercised in assigning to each word the proper class. For this purpose the different subdivisions may be marked by abbreviations, or any other arbitrary signs. These different words of each table, according to the subdivisions, belong, the child is made to read them together with the words to convert the alphabetical nomenclature into a scientific

It is daily necessary to give an example; on account of the plan, however, I will add the following instance for illustration. This is one of the subdivisions of Europe. The child is then to be shown a list of England into forty counties, with a number attached to each. After this the child is supplied with an alphabetical list of the names of England, every town in the list being marked with the number of the county to which it belongs. The child having first been made acquainted with the signification of each number, he will be able to arrange them in their respective counties. The following table of towns and cities be laid before the

"Abberford, 27.
"Abbotsbury, 35.
"Abergavenny, 16.
"Alcester, 20.
"Alford, 24.
"Alfreton, 22.
"Alnwick, 29.
"Alresford, 33.
"Alstonmoor, 32.
"Alton, 33, &c.

We have substituted England instead of Germany, to make the illustration more intelligible.

"He would read it down in the following manner:

"Abberford is in Yorkshire.

"Abbotsbury is in Dorsetshire.

"Abergavenny is in Monmouthshire.

"Alcester is in Warwickshire.

"Alford is in Lincolnshire.

"Alfreton is in Derbyshire.

"Alnwick is in Northumberland.

"Alresford is in Hampshire.

"Alstonmoor is in Cumberland.

"Alton is in Hampshire, &c.

"Having gone, in the different departments of science, so far as to enable the child to read his tables with ease and security, according to the signs of the scientific nomenclature; I take it for granted that the child will be enabled to help himself on, by making of the existing means of information such use as he may deem fit or necessary, according to his circumstances, or the peculiar tendency of his mind. Farther than this I never intended to go; I never pretended to teach any art or science; in fact, there is not one with which I myself am acquainted; my only object is to facilitate generally the acquisition of the elements of all the arts and sciences, and to give to the neglected and abandoned classes of my countrymen open access to the stores of human civilization."

"*Sapienti sat*," will our sapients here exclaim; "it is quite evident that Pestalozzi himself is very innocent of all that humbug of *elementarism*, with which we are continually being pestered, to the great detriment of our uninterrupted progress in that intellectual cycle which we have prescribed to ourselves, and to the rising generation, for everlasting perambulation." No doubt they have a right to say so, after such a specimen of what Pestalozzi and his disciples might have accomplished, if they had chosen to throw themselves into that line. Still, though it cannot be denied, that "the force of example" is on their side of the argument, they ought not too hastily to conclude upon the identity of Pestalozzi's views with their own. There remains yet unremoved between the two "a great gulf," inasmuch as the devise, which has so just a title to their admiration, did not, in mind, proceed from that "mania of popular education" which ambition it is to see all the world bespatter

phy, history, physical science, &c. an anxious, though, in which he brought first under the search for "the elements" giving them series of tables, therefore, so far from invalidating each head written on them, we have in this volume and

"In the first instance," he says, to the "machinery" of our be laid before the child in no way entirely from the circumstance, of any opinion whatever, not the instruction of geography from the This being done, the question we appeal to the candour of the suggest, according to the, whether the worst we have ever said then begins. The same is, all their instruction reduces itself to at first, presented and, "Let it not be supposed, however, order, are now to be, with pertinacious complacency to of view, and the child, the contrary, we have his own word that place to which it belongs, the experiments of the same kind, "soon laid be marked by ciphers, combination which we have given in the sixth being put against the, in which "the elements" of geography sions to which the, the mind of his pupils in his institution words, and the, that at a later period, when his views were tific one. his instruction was calculated for any

"It seems, that at a later period, when his views were novelty of the, his instruction was calculated for any tion. For, the facility of reading and remembering learn to, and names and ciphers. On the strength of each, acknowledgment, therefore, and of his sub- towns, we may confidently claim the authority nun- we may confidently claim the authority ex- the plan which we would propose, as the most aff- his principles, for the instruction of geo-

subjects, so on this, we would recommend the and encourage as much as possible the pupil's and to watch his opportunities of so doing with are, as this science consists altogether of positive it is not possible to elicit from the child's mind, must, necessarily, in the first instance be stated to natural, therefore, of presenting to his view a map or ought to be directed in drawing himself the outlines without mountains, coasts, streams, &c. according to with which the teacher supplies him; and called the course proceeds, to connect in his mind the dif-

and heads of information. For the purpose of universal geography, we have found the newly invented slate globes very useful, by means of which a whole class can be employed together in drawing their own globes, any mistake that may occur, being easily corrected with the sponge.

At the outset, the teacher ought to make his pupils acquainted with so much of what is termed mathematical geography, as will be sufficient to make them understand the change of day and night, and the different seasons. Having marked any one of the meridians on the slate globe as the first, and accordingly determined the latitude and longitude of the locality where the teacher and pupils are at the time, the teacher should ask where the sun is seen at noon; indeed, he should contrive to give this first lesson at or about noon. He should next ask for the place where the sun appears to rise and to set; and having stated that the sun does not, in reality, move from its rising point to its setting point, he should leave the pupils to find out in what way the earth must spin round in order to make the sun appear and disappear in the manner described. The pupils will soon find this, and the teacher may then proceed to ask, how long it is from one noon to the other. The pupils having thus ascertained that the diurnal motion of the earth is performed in twenty-four hours,* they will have no difficulty in placing the globe in the position in which the earth is towards the sun at every hour of the day. After the pupils have attained sufficient clearness in determining the comparative times of day round the globe, the teacher should by way of practice ask a number of questions, such as the following:

Where is it three o'clock in the afternoon, when it is noon with us?

Where is it two o'clock in the morning, when it is six o'clock in the evening here?

* The difference arising from the earth's progress in its orbit ~~sun~~ into consideration at this time.

Where is it ten o'clock in the morning, when it is midnight here?

And so on, until the pupils mark those meridians with perfect ease. They may next be made acquainted with the division of the circle into 360 degrees, and the counting of the distances between the meridians to the 180th degree east and west. The teacher ought then to ask the same kind of questions again, with this difference, that he should require the degrees of longitude to be specified, which will give him an opportunity, very soon, of dropping the locality of their dwelling place, and to ask the pupils for the comparative time of day of any two meridians; for instance:

If it is three in the morning under the sixth degree w. l. what time is it under the sixty-ninth degree E. L.?

If it is half-past five in the evening under the twenty-fifth degree E. L. under what meridian is it seven in the morning?

If it is noonday seventy-five degrees to the west of this meridian, (any given meridian on the globe,) what time is it seventy-five degrees to the east of it?

How many degrees are required to make a difference of six hours forty-eight minutes in the time of day?

If the sun rises on a certain point under the fifty-sixth degree E. L. at fifty-six minutes after four in the morning, under what meridian will it be noonday at the moment of sunset on the given point under the fifty-sixth degree E. L.?

Such questions should be repeated until the pupils have attained sufficient practice to solve them rapidly by mental calculation; the teacher, however, should take care not to suggest any mode of solving them, but should leave the pupils with the aid of their globes, as long as they themselves find them requisite, to work their own way, reserving his interference or assistance for the event of any pupil's finding himself entangled in peculiar difficulties, in which case still he ought only to lead him by questions, and on no account to forestal his judgment.

The next step to be taken, is to make the pupils acquainted with the annual motion of the earth. For this purpose a

plane of pasteboard, cut out in the shape of the earth's orbit, will, in absence of a better apparatus, be quite sufficient. The teacher ought here to guard against a mistake which is very common, viz. for the sake of impressing the pupil's mind with the idea that the earth moves in an ellipse, to represent the orbit as much more differing from the circle than it really is. A few ellipses drawn in presence of the pupils, with gradually less distant foci, will soon convince them of the approximation to the circle, which takes place in proportion; and they will still bear the nature of the ellipse in mind, although, if drawn according to the real proportion of the two diameters on the scale on which it is practicable to represent the orbit, the difference between it and the circle will not be perceptible on the periphery. The orbit, in one focus of which the sun is to be marked, should then be fixed in an horizontal position, and a small ball representing the earth fixed on a wire, in lieu of axis, under an angle of twenty-three degrees thirty minutes to the plane, made to move round it, beginning from one of the solstitial points. By means of this simple apparatus, which every teacher can prepare for himself, and which only requires a caution as to the disproportionate size of the earth, the annual motion of the earth, and its effect in the change of angle under which the rays of the sun fall upon different latitudes, may be illustrated with sufficient clearness for the pupil to perform the different calculations which arise out of this part of the subject, availing himself occasionally again of his slate globe in cases where he may find it serviceable. These calculations should succeed each other in the following order:

1. The average velocity of the earth in each astronomical month being given, to determine the length of such month, as the time employed by the earth in moving through thirty degrees of its orbit.

2. The exact time of one of the solstices or equinoxes being given in the current year, to calculate the termination of the twelve astronomical months in any given year, according the computation of calendar months and days.

3. To determine the degree of latitude which has the sun in the zenith on each of the days determined by the preceding calculation, or on any other given day of any given year.

4. To determine the angle under which any given latitude receives the rays of the sun at noonday, on any given day in any given year, which, in connexion with the calculation of the angle of the pupils' own locality at different seasons of the year, will lead them to form an idea of climate, as far as it depends on latitude.

5. To draw on the slate globes the circles of light for different seasons of the year and different times of day, which, with the necessary allowance made for the spheroidal shape of the earth, and the refraction of light, will determine the length of day under different latitudes at different seasons of the year.

All these calculations ought to be pursued in the manner before illustrated, until the pupil is enabled, without a violent stretch of his mind, readily to form an estimate of the aggregate effect which the sun produces upon any given spot on the surface of the globe at any given time. As soon as that end is attained, a double course should be entered upon, one having for its object the relation of the earth to the heavenly bodies, taking, after the sun, the moon, next the planets and comets, and lastly the fixed stars, so as to form a complete course of astronomy; while on the other hand, geography, in the proper sense of the word, ought to be pursued separately, and with no more reference to the heavenly bodies than the influence of the sun upon climate, of the moon upon tides, and the connexion of the seasons with the rising and setting of certain constellations in different parts of the globe, render necessary. To this latter course, as the more generally useful, we shall here confine ourselves, and endeavour, as far as our limits will permit, to give a sketch of the plan which ought to be followed.

Having now only to do with the surface of the earth, the teacher should endeavour to convey to his pupils a clear view of its grand outline, in which the habitable part of the globe

presents itself as lying in the middle between two mighty masses of water, the one in a solid, the other in a liquid state; both bound up from corruption, the one by crystallization, the other by impregnation with saline substances; and both ministering to the support of life in myriads of different forms, the one sending out streams of fresh water in every direction over the dry land, which, without them, would soon become a sandy desert: and the other keeping the mighty stores on the tops of the mountains undiminished by the airy supplies of the clouds.* This circulation of water around and over the surface of the earth, and its change from the solid to the fluid, from the fluid to the airy, and from this again to the solid form, is one of those grand and interesting features in the household of nature, which to apprehend, is to "bow down and worship." Living pictures of this kind produce a greater effect upon the young mind than a thousand dogmatical apostrophes to the "God of nature," in which children are called upon to admire infinite wisdom, whilst the display of that wisdom is carefully hidden from their eyes. How little do they know of the works of God, and of the mind of a child, who have yet to learn that, whatever be the enmity of the carnal mind on subjects which touch immediately upon the moral depravity of man, the grandeur and harmony of nature, if brought to view with that life which is in it, addresses man with as much success as condescension, in the simple language of an artist, who knows that to command admiration, he need only say, "Come and see!" But we return to our subject.

The view which we have given, as the first fact that strikes the mind, on looking, as it were, on the profile of the globe, is of itself sufficient to show the importance of the mountains, as the bearers of the whole system. A little reflection on the influence which they have in determining almost all over the globe the outline of the coasts and the course of the rivers,

* At this part of the course the "picture of organised nature in its spread over the earth," according to Humboldt's researches, will be found a vast aid.

will leave no doubt that a knowledge of them should form the basis of physical geography. The teacher should, therefore, begin by letting the pupils draw on their globes the different chains which, at different elevations, encompass the earth: including those chains, which at their average elevation remain below the level of the sea, but, raising above it their highest summits, form the different groups of islands. In doing this the teacher ought, however, to remember, that his object is not merely to inculcate a number of names in connexion with some lines, but that his pupils are to be made acquainted with the character of the different parts of the globe, and the fundamental structure of its surface, and accordingly he ought not to present those chains according to the usual divisions of Asiatic mountains, European mountains, &c., but, leaving the names of the different continents and countries altogether out of the question, to trace simply what might be called their skeleton. This ought to be done in such a manner, as will enable the pupil to distinguish the leading directions of the principal chains, from which the others either actually branch out, or at all events maintain certain characteristic positions towards them, the analogy of which in different parts of the globe is very striking. We are perfectly aware of the difficulties with which the teacher will have to contend in attempting such a course, owing to the want of good orographic maps, and the vague and often contradictory information with which the best works on geography abound. Nevertheless, by persevering research, much of the darkness, in which this subject is enveloped, may be dispelled, and the evil of an occasional mistake in those parts of the world which are but imperfectly known, is not to be put in comparison with the advantage arising from a clear arrangement. "*Citius emergit veritas ex errore quam ex confusione*," is the motto prefixed to the most learned and, without contradiction, the most correct work on geography, which has ever appeared, and which, if it were completed, would render the composition of a good manual of geography, for the use of teachers, a comparatively easy task. In order to illustrate

what we have said on this subject, and to supply those who may be inclined to follow our hints, at least with a few leading data, we will add here the result of our investigations, as regards the principal chains of the earth; and though we do not pretend to say, that our outline is absolutely correct, the information on which we are obliged to judge of some parts being to ourselves far from satisfactory, yet we are sure that it contains no material errors, and that it will be found very useful in clearing away the difficulties of a first beginning.

We distinguish in all three principal chains of mountains, two of them in the eastern hemisphere, running in the direction from east to west, parallel to each other, and connected about the middle by a cross chain; and the third in the western hemisphere, in the direction from north to south.

1. *The southern Chain of the Eastern Hemisphere, from the Canary Isles to the Fox Islands.*

The central elevation of this chain is that knot of mountains which generally goes by the name of the Alps of Tibet, and of which the only part that has undergone any thing like correct measurement, is its southwestern ridge, the gigantic Himaléh. At the north-west extremity of that ridge rises mount Kantel, under 34° N. L. 76° E. L. from which the chain extends over the south branch of the Hindookoh, and, through the mountains of Persia, stretches to the south-east angle of the Caspian sea, where it assumes the name of the Caspian Mountains. Thence it is continued in Mount Ararat, and farther on in Mount Taurus, from whence, interrupted by the two straits of the Hellespont, it is prolonged in Mount Balkan, and farther north in the Illyrian, Tyrolese, Swiss, and Cottian Alps. These are joined by the Cevennes and their collateral ranges in the South of France; and, on the other side of the Pyrenees, the Sierra Nevada, terminating in the rocks of Gibraltar, forms the connexion with the of Mount Atlas, whose extreme promontories are the Canary Islands. On the other side of Mount north ridge of the Alps of Tibet runs due east,

continuation in those vast tracts of mountains of which we know no more than that they pass through the provinces of Shensee and Shansee, in China, and are connected with the white mountains in Corea, from whose southern extremity the Dshukdshoe mountains, partly overflowed by the sea, and forming the Isles of Nippon and Jesso, and the Kurile Islands, stretch themselves in a northeasterly direction into Kamtschatka, from whence another chain bends out, and by the islands of the Aleutian Archipelagus, establishes the connexion with the leading chain of the western hemisphere. Through all these mountains one continued line is to be traced, which, of course, to make the different ranges of mountains through which it passes, complete, will require the addition of the knots and collateral branches by which they are enlarged in their different parts. For the delineation of that line the following points will, on a globe of from ten to eighteen inches diameter, be found sufficient; and the names of the different chains marked in the intervals between the points will serve as a guide for the easier recognition of each, although the points are not to be understood as marking the limits of the respective ranges, since they were selected merely with a view to determine their direction.

28° N. L. 18° W. L.	}	The Canaries.
28° N. L. 10° W. L.		
32° N. L. 6° W. L.	}	Atlas.
36° N. L. 5° W. L.		
42° N. L. 1° E. L.	}	Sierra Nevada.
44° N. L. 6° E. L.		
48° N. L. 11° E. L.	}	Cevennes.
42° N. L. 21° E. L.		
38° N. L. 33° E. L.	}	European Alps.
40° N. L. 38° E. L.		
41° N. L. 43° E. L.	}	Balkan.
39° N. L. 46° E. L.		
36° N. L. 50° E. L.	}	Taurus.
34° N. L. 60° E. L.		
		Ararat.
		Caspian Mountains.

34° N. L. 60° E. L.	}	Hindookoh.
37° N. L. 71° E. L.		
34° N. L. 76° E. L.	}	Alps of Tibet.
34° N. L. 104° E. L.		
40° N. L. 117° E. L.	}	Chinese Mountains.
42° N. L. 127° E. L.		
33° N. L. 126° E. L.	}	White Mountains.
36° N. L. 140° E. L.		
42° N. L. 140° E. L.	}	Dshukdshoe Mountains.
56° N. L. 160° E. L.		
52° N. L. 178° W. L.	}	Aleutian Chain.
55° N. L. 166° W. L.		

2. *The northern Chain of the Eastern Hemisphere, from Cape Lindesness to East Cape.*

This chain has, in its central elevation, the great Altai, from the western extremity of which the Ural stretches northward, and about the middle of its range sends forth a branch to the west, which forms the connexion with the mountains of Finland and Lapland, and through them with the Dofine mountains in Norway. On the other hand, to the east of the great Altai are the mountains of Sayansk and Baikal, which join the Da-ourian and Yablonoï mountains, thus establishing a connected line over the following points.

58° N. L. 7° E. L.	}	Dofine Mountains.
71° N. L. 29° E. L.		
62° N. L. 32° E. L.	}	Lapland and Finland Mountains.
62° N. L. 37° E. L.		
60° N. L. 35° E. L.	}	Russian Mountains.
60° N. L. 43° E. L.		
58° N. L. 45° E. L.		
61° N. L. 50° E. L.		
62° N. L. 56° E. L.		

62° N. L. 56° E. L.	}	Ural.
52° N. L. 60° E. L.		
49° N. L. 75° E. L.	}	Great Altai.
50° N. L. 90° E. L.		
53° N. L. 99° E. L.	}	Sayansk Mountains.
52° N. L. 103° E. L.		
55° N. L. 118° E. L.	}	Baikal Mountains.
53° N. L. 120° E. L.		
56° N. L. 137° E. L.	}	Da-ourian Mountains.
61° N. L. 141° E. L.		
67° N. L. 170° E. L.	}	Yablonoï Mountains.
66° N. L. 169° W. L.		

3. *The cross Chain, between the two Chains mentioned,*

Begins with the northern branch of the Hindookoh, and under the successive names of the Alak Mountains and the Boogdo-Oola runs across in a 'northeasterly direction, until it joins the Altai, under the 50° N. L. 90° E. L. It may be traced over the following points.

37° N. L. 71° E. L.	}	Hindookoh.
42° N. L. 70° E. L.		
44° N. L. 82° E. L.	}	Alak Mountains.
43° N. L. 90° E. L.		
48° N. L. 97° E. L.	}	Boogdo Oola.
50° N. L. 90° E. L.		

4. *The leading Chain of the western Hemisphere, from Prince of Wales Cape, to Cape Horn.*

This chain, celebrated under the name of the Andes or Cordilleras, takes its beginning opposite the East Cape, being divided from the eastern extremity of the northern chain of the eastern hemisphere only by the narrowest passage of Bhering's strait. It follows the coast of Kiteguen land until

the Icy Cape, from which to Beechey Point, the coast is totally unexplored, but, from the range of mountains which runs along the coast of the Esquimaux, it is highly probable, that the chain continues without interruption along that small tract of *terra incognita*. From the Esquimaux mountains to the south, run the Rocky mountains, after which the Sierra Madre and the Cordilleras of Guatemala bring the chain down to the mountains of Panama; on the other side of which the Cordilleras of South America extend themselves to the southeastern extremity of Tierra del Fuego. The following are the data for its delineation.

66° N. L. 168° W. L.	}	Mountains of Kiteguen Land.
66° N. L. 160° W. L.		
68° N. L. 165° W. L.		
70° N. L. 161° W. L.	}	Terra Incognita.
70° N. L. 150° W. L.		
68° N. L. 136° W. L.	}	Esquimaux Mountains.
41° N. L. 108° W. L.		
18° N. L. 97° W. L.	}	Rocky Mountains.
18° N. L. 95° W. L.		
15° N. L. 88° W. L.	}	Sierra Madre.
8° N. L. 82° W. L.		
9° N. L. 78° W. L.	}	Cordilleras of Guatemala.
7° N. L. 77° W. L.		
1° N. L. 77° W. L.	}	Mountains of Panama.
6° S. L. 81° W. L.		
15° S. L. 77° W. L.	}	Cordilleras of South America.
18° S. L. 70° W. L.		
40° S. L. 70° W. L.		
53° S. L. 72° W. L.		
56° S. L. 67° W. L.		

These leading chains being once laid down, and their different ranges firmly impressed upon the mind, the teacher will

find no difficulty in the delineation of the other mountains of the earth, which are all more or less connected with them. Having accomplished this, he should next proceed to give his pupils some idea of the height of the different ranges. For this purpose, the mountains should be divided into different classes, according to the average elevation which their highest summits attain; as follows:

First Class. Average maximum 3000 feet and under; for instance, the mountains of Wales and Ireland.

Second Class. Average maximum 4500 feet; for instance, the mountains of Iceland, the Highlands of Scotland, and some ranges in Germany.

Third Class. Average maximum 6000 feet; for instance, the White Mountains in America, the Balkan, the Cevennes, the Riesen, and Fichtel Mountains, in Germany, and the Mountains of Finland.

Fourth Class. Average maximum 9000 feet; for instance, the Lebanon, the Caucasus, the Dshukdshoe Mountains, the Apennines, the Carpathian, and the Dofine Mountains.

Fifth Class. Average maximum 12,000 feet; for instance, Mount Atlas, Mount Ararat, the Mountains of Sumatra and Java, the Sierra, Nevada, and the Pyrenees.

Sixth Class. Average maximum 15,000 feet; for instance, the European Alps and the Mountains of New Zealand.

Seventh Class. Average maximum 21,000 feet; for instance, the Hindookoh, and the Cordilleras between 40° N. L. and 20° S. L.

Eighth Class. Average maximum 27,000 feet; the Himaléh.

The pupil having, in this manner, been made acquainted with the scale of the different mountains, with the locality of which he is supposed to be familiar, the teacher should desire him to trace through the leading and collateral chains the gradual diminution and increase of height. To impress this more indelibly upon the mind, the teacher may let him represent the different classes by different numbers of lines; the first class by a simple, the second by a double line, the third

third by three parallel lines, &c. This is also the time when the teacher ought to communicate what information he can obtain on the geological structure of the different chains which come successively under consideration, on the ores which they yield, on the snowline, &c.

After the pupil has thus acquired a thorough knowledge of the mountains of the globe, the next step should be to let him draw the outline of the coasts, omitting, however, all the changes in their conformation which are the effect of rivers and streams. Due attention should be paid, at the same time, to geological and mineralogical facts, and, where it is known, the elevation of the coasts and inland plains should be given. At the conclusion of this part of the course the globe will present all the continents and islands, the chains by whose summits the latter are formed, being now broken, as they appear above the surface of the sea.

The next step should be to let the pupils draw the different inland lakes and the rivers; the latter classed according to their length, in a similar manner as the mountains according to their height. This will afford ample opportunity for exercising children's minds, by leading them to observe the direction which the rivers mostly receive from the chains, along which they flow; and on the other hand, the power with which the waters have, in many instances, forced their way through the mountains. The changes of the coast, which each river has produced at its mouth, should likewise be taken into account, so that after the completion of this part of the course, the whole surface of the globe will be correctly represented.

For the sake of refreshing the pupil's recollection, and in order to give him an opportunity of comparing the different stages through which he has gone, it would be well to have three different globes, representing, according to the gradual progress which we have described, the first, the mountains, or the skeleton of the dry land; the second, the relation of

land and sea; and the third, that of land, sea, and inland waters.

Another course should then follow, having for its object, to make the pupils acquainted with the economy of nature in the different countries of the earth. Their vegetable productions, and the animals which inhabit them, should be introduced in groups, calculated to show the connexion which they have with each other, and with the nature of the soil on which, and of the climate under which they are placed, so as to form a course of natural history, in which the different creatures of the earth would not be presented according to the artificial distinctions of scientific systems, but according to their localities. A moment's reflection will show how much interest the subject would gain from this mode of treating it; and how much more knowledge of nature would be derived from such peeps into her household, than from a series of unconnected fragments, in which one beast after the other is "accurately described" from the tip of the snout to the extremity of the tail.

Lastly, to close the introduction of geography in a manner adequate to the dignity of the subject, the pupil should have the earth presented to him as the dwelling-place of man. Following the gradual spread of our race over the countries of the globe, the teacher should give a short outline of the state of society, and the destinies of the different generations of inhabitants which have succeeded one another on each particular spot; so that the whole would form a survey of the history of our species, not in chronological, but in geographical order.

Having thus given a pretty detailed outline of the course which we would propose for the instruction of universal geography, it will not be necessary for us to say much about the mode of teaching the special geography of different countries. That in which the pupils themselves live, ought, of course, to be made the subject of particular attention, and the knowledge of it, as far as circumstances will permit,

founded upon ocular inspection. Maps of it should be drawn, and the facts connected with its various localities, communicated upon the same progressive plan, which has been detailed with reference to the globe. As regards foreign countries, their geographical details may conveniently be reserved until an opportunity offers of connecting them with the historical course, of which we shall give a short sketch in a subsequent chapter.

CHAPTER XXVIII.

Hints respecting the Instruction of Natural Science.

Nægeli's Manual of Singing.

Development of the Active Powers of the Body ; Gymnastics.

HAVING in the six preceding chapters detailed those branches of instruction which were developed under Pestalozzi's own auspices, at least to a certain extent, according to the principles of his method, we now proceed to the illustration of several other subjects, which ought, in our opinion, to be comprised in a general plan of education; and which we are the more anxious not to pass over unnoticed on the present occasion, as our silence might tend to confirm in the minds of our readers an erroneous notion, which, we believe, has been very generally spread, that the principles of Pestalozzi's method are only applicable to certain subjects, and that others have successfully baffled every attempt to *Pestalozzianize* them. It is true, and has already been stated, that Pestalozzi himself, and his immediate disciples, whatever they may have attempted, never succeeded in carrying the practical application of the method beyond the instruction in arithmetic, geometry, drawing, and geography. Even the instruction of the mother-tongue, notwithstanding the valuable materials contained in Pestalozzi's "Spelling-book," and in his "Mother's Manual," was not brought to any degree of perfection. The instruction in singing was successful only, because Pestalozzi's assistants followed the course traced out by his friends Nægeli and Pfeiffer; and the various experiments that were made, for instance, with foreign languages and history,

must be candidly confessed to have been complete failures. This, however, though it accounts for the origin, does not prove the correctness of the notion alluded to. Pestalozzi's plan is not one of those mushroom systems which grow up in one year, to be popular in another, and die away in the third; it does not enable a teacher, within a twelvemonth, to get up a collection of "keys" to all the doors of knowledge, no more than it makes it possible for the pupil to attain any particular branch of knowledge in a given number of "warranted" lessons. The principles on which it is founded, require for their successful application in every particular instance, not only years of research and practical experience, but also a considerable share of talent and information on the subject to which they are to be applied; so that it would have been nothing short of a miracle, if Pestalozzi had been able to collect around him, in the last twenty years of his life, men possessed in an eminent degree of every species of knowledge and acquirements, by whose aid he might have seen his ideas realized in every branch of learning, science, and art. But what he and his first disciples could not, in the nature of things, accomplish, has been done since, or will still be done, by others; for, as long as there are children to be taught, teachers will be found also, who, rising above the mercenary spirit of the mere journeyman schoolmaster, will take a higher interest in the performance of their task, and take for their guide those principles, which Pestalozzi first proclaimed as a sort of charter of the liberties of the youthful mind.

Among the labours thus bequeathed by Pestalozzi to the more distant advocates of his cause, the different branches of natural science ought first to be mentioned, because their proper place is during the earlier periods of education, when they may be turned to account for the purpose of leading the child to observe accurately, and to arrange the results of his observations under general heads. It is with this view that zoology, ornithology, ichthyology, entomology, conchology, botany, mineralogy, &c.; and, at a later period, physiology, chemistry, physical science, &c., should be brought

within the grasp of the child's mind, by discarding altogether the unintelligible nomenclatures, in which, at present, the treasures of those sciences are hid from all but the initiated, and substituting indigenous terms of a corresponding import. Another improvement which the usual mode of presenting those sciences must undergo, to render them fit for elementary instruction, is, that whatever is to be observed, should be presented in that order which is best calculated to give, by means of contrasts and analogies, a clear and comprehensive view of the subject. With these few general remarks we feel inclined to dismiss the head of natural sciences, as we have never paid particular attention to any of them, and have not, until very lately, been called upon to bring the Pestalozzian instruction to bear upon their details. Still, as we feel, how very unsatisfactory it must be to our readers, to see so important a province of education despatched with such leanness, we will subjoin, as an attempt at illustration, a scrap of entomology, in the full confidence, that the candid confession of our great ignorance in these matters, will ensure us the indulgence of our readers, and screen us from impertinent censure.

Suppose the subject of the lesson to be the distinctions of the *antennæ*, of which a compendium of entomology would enumerate the following leading characters:

Amphiophthalmæ, wholly, or in part, surrounded by the eyes.

Approximatæ, close together at their base.

Articulatæ, with distinct joints or articulations.

Breves, shorter than the head.

Catophthalmæ, placed behind the eyes.

Ciliatæ, fringed with parallel *setæ*, inserted along the side of the *antennæ* through their whole length.

Clavatæ, clubshaped, terminating in a knob.

Coadunatæ, connected at the base.

Dentatæ, set with remote spreading points in one direction.

Distinctæ, not united at their base.

Elongatæ, longer than the head.

Exarticulatæ, with no distinct articulations.

Filiformes, of the same thickness throughout their whole length.

Hyperophthalmæ, placed above the eyes.

Hypophthalmæ, placed under the eyes.

Lamellatæ, pectinated, but with scales instead of bristles.

Longæ, longer than the body.

Mediocres, of the same length with the body.

Nudæ, not garnished with hairs or bristles.

Nutantes, at the points bent downwards.

Pectinatæ, comb-shaped, or sending out from both sides parallel bristles through their whole length.

Perfoliatæ, the club being horizontally divided, the pieces connected in the middle.

Perfoliato imbricatæ, consisting of small concave pieces, imbricated and connected in the middle.

Porrectæ, stretched straight forward.

Prismaticæ, linear, with more than two flat sides.

Proophthalmæ, placed before the eyes.

Remotæ, distant from each other.

Serratæ, toothed like a saw, the incisures turned towards the extremities.

Setacæ, growing gradually more attenuated from the base to the point.

Spinosa, set with large subulated spines.

Spiriformes, rolled into a spiral form.

These materials we should convert into the following lesson, on *the feelers* of insects. Having a number of specimens, among which care should be taken not to omit any of the characters to be compared, we should direct the attention first to the part of the head from which the feelers spring, and the pupils having found that they are always near the eyes, we should then ask for the different positions which they can hold towards the eyes.

This would give the following result.

The feelers spring either from within the eyes, or from some place near the eyes.

In the latter case they are either before or behind, above or below the eyes; or half before and half above, half before and half below, half behind and half above, half behind and half below the eyes.

To impress this clearly upon the mind, we should set it out as follows:

Considering their *position to the eyes*,

Feelers are {	{	in the eyes,	
	{	near the eyes,	above,
			half above and half before,
		before,	half below and half before,
	below,	half below and half behind,	
	behind,	half above and half behind.	

After this the pupils should be asked again with reference to all the different specimens, under which of the above nine characters each comes, until they can determine them with facility.

In the same manner we should proceed with the other characters.

Considering their *mutual position*,

Feelers are {	connected,	
	unconnected,	{ near, distant,

Considering their *length*,

Feelers are {	longer than the body,	
	equal to the body,	
	shorter than the body,	{ longer than the head, equal to the head, shorter than the head.

Considering their *shape*,

Feelers are $\left\{ \begin{array}{l} \text{round,} \\ \text{flat,} \end{array} \right. \left\{ \begin{array}{l} \text{with two sides,} \\ \text{more than two sides.} \end{array} \right.$

Considering their *structure*,

Feelers are $\left\{ \begin{array}{l} \text{jointed, consisting of several pieces;} \\ \text{not jointed, consisting of one piece.} \end{array} \right.$

Considering their *thickness*,

Feelers are $\left\{ \begin{array}{l} \text{the same thickness throughout, threadlike,} \\ \text{the thickness increasing} \end{array} \right. \left\{ \begin{array}{l} \text{towards the top, clublike,} \\ \text{towards the root, tapering.} \end{array} \right.$

In *clublike feelers*,

The club is $\left\{ \begin{array}{l} \text{solid,} \\ \text{divided} \end{array} \right. \left\{ \begin{array}{l} \text{into flat leaves} \\ \text{into tile-shaped leaves.} \end{array} \right. \left\{ \begin{array}{l} \text{connected at the end} \\ \text{connected in the middle.} \end{array} \right.$

Considering their *appendages*,

Feelers are $\left\{ \begin{array}{l} \text{simple, without appendages;} \\ \text{garnished, with appendages.} \end{array} \right.$

In *garnished feelers*,

The appendages are $\left\{ \begin{array}{l} \text{irregular, like thorns,} \\ \text{uniform} \end{array} \right. \left\{ \begin{array}{l} \text{single,} \\ \text{double,} \end{array} \right. \left\{ \begin{array}{l} \text{like the teeth of a saw,} \\ \text{like the teeth of a comb,} \\ \text{spread out like a double comb,} \\ \text{clasped together, like a pair} \\ \text{of eyelashes.} \end{array} \right.$

Concerning their *carriage*,

Feelers are $\left\{ \begin{array}{l} \text{straight,} \\ \text{bent,} \\ \text{rolled.} \end{array} \right.$

In a similar manner the distinctions between the different orders, families, genera, &c. should be illustrated in diagrams; as an example of which, we give the following table of the different families of the Section *Pentamera*, Order *Coleoptera*:

We have given the names of the families here in Latin, because we have not for all of them adequate English names to substitute. Some of them admit of translation, and are expressive of the character or properties of the insects; for instance: *telephoridae*, farflyers; *cicindelidae*, glitterbeetles; *elateridae*, leapers; *dytiscidae*, divers; *geotrupidae*, earthborers; *aphodiidae*, sinkbeetles; *copridae*, dungbeetles; *melolonthidae*, fruitblossom beetles; *helophoridae*, nailcarriers; *dermestidae*, skinbeetles; *silphidae*, bugbeetles; *spharidiidae*, ballbeetles; *hydrophilidae*, waterlovers; *gyrinidae*, ringbeetles. In all these instances we should for general purposes substitute the English names, and give the Latin or Greek original only to such pupils as are acquainted with those languages; in those cases, on the contrary, in which the name does not correspond with the character and habits of the insect, for instance, *staphylinidae*, vinebeetles, *buprestidae*, oxkillers, &c., or in which the name does not admit of translation, for instance, *tillidae*, *parnidae*, &c., we should use the Latin name, until we could find some name taken from the distinctive character of the family. A name of this kind, denoting one of the organs of insects, we have inserted in the table, where, instead of the term *palpi*, we have put "hands," from the use which the insect makes of that organ.

It is hardly necessary to say, that such tables as that which we have here given, ought to be constructed by the pupils themselves, after the teacher has furnished them with the necessary data, illustrated by specimens of the different families. After the table is arranged, the teacher should take a variety of insects; and, after their order and section have been ascertained to answer to those of the table, call upon the pupils to determine their family. For instance; suppose the specimen produced by the teacher to belong to the family of the earthborers, *geotrupidae*, the teacher would ask:

What feelers has this beetle?

Answer: clublike.

What must you look to next?

Answer: the structure of the club;- it is divided into leaves.

How are the leaves connected?

Answer: at the end.

What is the next character?

Answer: the feet; they are adapted for digging.

How many families of beetles are there that have all these characters in common?

Answer: three; the earthborers, the sinkbeetles, and the dungbeetles.

Which of the three do you think this beetle belongs to?

Answer: to the earthborers.

Why do you think so?

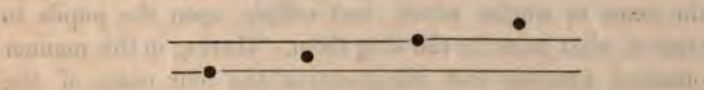
Answer: because it has the escutcheon, and its body is roundish.

In all these exercises, however, it is essential the teacher should bear in mind, that the great object to be attained is not a knowledge of the names of different insects, but the development of the perceptive faculties, and the practice of acute observation. In proportion as the teacher keeps the latter object uppermost in his thoughts, his instruction will be full of life; on the contrary, as soon as he makes himself and his pupils subservient to the former, it will become dull and dead.

But we have said enough on a subject, in which we do not feel at home; and we are very glad that on another branch of instruction, which we feel equally incompetent to handle, and which, nevertheless, ought not to be omitted in the present publication, we are enabled to acquit ourselves by simply undertaking the part of a reporter. We have already in the sixth chapter mentioned the manual of singing, according to the principles of Pestalozzi's method, which was published by Pfeiffer and Nægeli: of that work the following short abstract will not be uninteresting to our readers.

The first exercises are exclusively devoted to the knowledge of the notes according to their length; the crotchet serving as the unit, or the standard measure, of which the minim is the double, the semibreve the quadruple, and the breve the octuple; while the quaver is the half, the

semiquaver the fourth, the demisemiquaver the eighth, and the half-demisemiquaver the sixteenth. The different rests are introduced at the same time, along with the notes to which they correspond in length. After this the arrangement of the notes in bars, and the nature of the different times, with all the smaller subdivisions of the length of notes by dotting, binding, grouping together in triplets and double-triplets, &c., form the subjects of a series of lessons, during all of which the pupil is as much as possible led on by questions, and left to discover a variety of those facts which generally are inculcated by direct tuition; but particularly the teacher is cautioned against the practice of singing to the pupils, and thus reducing their exercises to a mere matter of imitation. During the whole of this course of "*rhythmic*," the pupil sings always the same note, in order that his attention may be exclusively directed upon time; and in the same manner in the second section of the manual, which is devoted to "*melody*," the same time is always kept, so as to make the ascending and descending of the notes the sole object of instruction. In the last-named course, the manual sets out with a variety of directions for the teacher, which shall enable him to ascertain the vocal capabilities of each child. The four tones of half an octave, termed in the manual a "*tetrachord*," consisting of three tones and a semitone, are next taken up, and exercised first in the ascending, and then in the descending scale. After this they are to be written on the music-board in this manner:



and the teacher is directed to let the pupils sing them in various successions, to be indicated by him with a pointer. A few of these successions we will transcribe here, marking the notes to be sung by the ciphers 1, 2, 3, 4, beginning from the left, and the rests to be introduced by double dots; and, if longer, by perpendicular strokes:

I. 1. 2. 1 .. 2. 3. 2 .. 3. 4. 3 .. 4. | 4. 3. 4 .. 3. 2. 3 .. 2. 1. 2 .. 1.

II. 1. 2. 3. 2. 1 .. 2. 3. 4. 3. 2. | 4. 3. 2. 3. 4 .. 3. 2. 1. 2. 3.

III. 1. 2. 1. 2. 3 .. 2. 3. 2. 3. 4. | 4. 3. 4. 3. 2 .. 3. 2. 3. 2. 1.

IV. 2. 1. 2. 3. 2. 3. 4. | 3. 4. 3. 2. 3. 2. 1.

V. 3. 4. 3. 2 .. 2. 3. 2. 1 .. 2. | 2. 1. 2. 3 .. 3. 2. 3. 4 .. 3.

VI. 4. 3. 2 .. 2. 3. 4 .. 3 .. 3. 2. 1 .. 1. 2. 3 .. 2. | 1. 2. 3 .. 3. 2. 1 .. 2 .. 2. 3. 4 .. 4. 3. 2 .. 3.

And for the exercise of thirds and fourths, still with intermediary notes:

I. 1. 2. 3. 1. 3 .. 2. 3. 4. 2. 4. | 4. 3. 2. 4. 2 .. 3. 2. 1. 3. 1.

II. 1. 3. 2. 4. | 4. 2. 3. 1.

III. 3. 1. 2. 4. | 2. 4. 3. 1.

IV. 1. 2. 1. 3. 1. 4. | 4. 3. 4. 2. 4. 1.

V. 4. 1. 4. 2. 4. 3. 4. | 1. 4. 1. 3. 1. 2. 1.

VI. 2. 1. 3. 1. 4. 1. | 3. 4. 2. 4. 1. 4.

VII. 4. 1. 3. 2. 4. | 1. 4. 2. 3. 1.

VIII. 4. 2. 4. 3. 1. 3. 2. | 1. 3. 1. 2. 4. 2. 3.

IX. 1. 2. 1. 3. 4. 3. 2. 3. 2. 4. | 4. 3. 4. 2. 1. 2. 3. 2. 3. 1.

The pupils having in this manner been accustomed to sing different series of notes in the order pointed out at the moment, the exercise is to be inverted by the teacher's singing the same or similar series, and calling upon the pupils to state in what order he did sing them. Having in this manner obtained firmness and clearness in the four notes of the "tetrachord," as regards both the voice and the ear, the teacher is directed to connect two "tetrachords," first so, that the first note of the second be the same as the last note of the first:

1 . 2 . 3 . 4 .

: : : 1 . 2 . 3 . 4 .

: : : : : :

1 . 2 . 3 . 4 . 5 . 6 . 7 .

and afterwards so, that the first note of the second be one tone higher than the last note of the first:

1	2	3	4	.				
:	:	:	:		1	2	3	4
:	:	:	:	:	:	:	:	:
1	2	3	4	5	6	7	8	.

If, therefore, those connected "tetrachords" were sung in the key of c major, the first would contain the following notes:

C. D. E. F. G. A. B \flat .

and the second, those of the diatonic scale:

C. D. E. F. G. A. B. C.

In this manner the difference between natural notes on one hand, and flat and sharp on the other, is introduced, and the pupil practised in the singing of intervals, both from natural to natural, and from natural to sharp or flat, by a variety of series, analogous to those which we have transcribed, with this difference, that they embrace seven or eight instead of four notes. At this period of the course the knowledge of the stave is introduced, and the subsequent exercises all written upon it, prefixing the c. clef, which is preferred in the manual as that which keeps the octave within the stave, and generally renders the system of notation less confusing to the beginner. Separate exercises are then performed upon the following series of "tetrachords:"

1. To illustrate the flats:

C.	D.	E.	F.
F.	G.	A.	B \flat .
B \flat .	C.	D.	E \flat .
E \flat .	F.	G.	A \flat .
A \flat .	B \flat .	C.	D \flat .
D \flat .	E \flat .	F.	G \flat .

2. To illustrate the sharps:

C.	D.	E.	F.
G.	A.	B.	C.

D. E. F \sharp . G.
 A. B. C \sharp . D.
 E. F \sharp . G \sharp . A.
 B. C \sharp . D \sharp . E.
 F \sharp . G \sharp . A \sharp . B.

In the course of these exercises, the ledger lines are introduced, and those "tetrachords" which, as for instance the fourth and sixth of the first series, and the third, fifth, and seventh, of the second series, appear in the ascending progress at the upper extremity of the stave, are rewritten afterwards an octave lower. At the close of this course, the chromatic scale is constructed, its elements having been developed separately in the different "tetrachords," and the difference between it and the diatonic scale made the subject of a variety of questions, until the teacher be convinced that the pupils have a correct notion of each scale, and of the intervals between any two given notes on either scale; for instance:

What interval is there between the first and the third note on the diatonic scale?

What interval between the first and the third on the chromatic scale?

Which note on the chromatic scale is as distant from the first, as the fourth is on the diatonic?

Which note of the diatonic scale answers to the eighth note of the chromatic? &c.

We subjoin some of the exercises on the notes of the chromatic scale, in which, to distinguish the notes of the first and second octave, we mark those of the latter with one horizontal stroke over the letters; the shorter and longer rests being again denoted by double dots and perpendicular strokes between the notes.

I. G. G \sharp . A. . A. Ab. G. | C. C \sharp . D. . D. Db. C. | G. G \sharp .
 A. . A. Ab. G. | C. C \sharp . D. . D. Db. C. | F. F \sharp . G. . G. Gb. F.

II. G. G \sharp . A. . A. A \sharp . B. . B. Bb. A. . A. Ab. G. |
 C. C \sharp . D. . D. D \sharp . E. . E. Eb. D. . D. Db. C. | G. G \sharp . A. . A.

A \sharp . B. . B. B \flat . A. . A. Ab. G. | C. C \sharp . D. . D. D \sharp . E. . E. E \flat .
D. . D. D \flat . C. | F. F \sharp . G. . G. G \sharp . A. . A. Ab. G. . G.
Gb. F.

III. G. B. A \sharp . B. . G. A \sharp . B. G. | B. G. Ab. G. . B. Ab.
G. B.

IV. G. D. C \sharp . D. . G. C \sharp . D. G. | D. G. Ab. D. . D. Ab.
G. D.

V. G. E. D \sharp . E. . G. D \sharp . E. G. | E. G. Ab. G. . E. Ab.
G. E.

VI. G. F \sharp . D. E \flat . . G. F \sharp . E \flat . D. | D. E \flat . G. F \sharp . . D.
E \flat . F \sharp . G.

VII. C. C. B. C. D \flat . . C. C. B. D \flat . C. | C. C. D \flat . C. B. .
C. C. D \flat . B. C.

VIII. C. D. C \sharp . D. . C. C \sharp . D. C. | D. C. D \flat . C. . D. D \flat .
C. C.

The third section of the manual gives, under the head "*dynamic*," a series of lessons on the *messa di voce*, and all the other points on which character and expression depend; after which the three elements of music, which were before treated separately, are combined in a series of exercises, which correspond with those of the two first sections, so that, for instance, "a rhythmic sentence," that is a succession of notes, arranged in a certain order of time, taken from the first section, would be incorporated, according to the laws of composition, with "a melodic sentence," that is, a succession of notes arranged in a certain order of tone, such as were given in the second section, and the tasteful execution of the whole conducted according to the rules laid down in the third part of the course. The fourth section, which initiates the pupil in the art of writing music, contains a repetition, and occasionally enlargement of the preceding sections. In this part, for instance, the nature of the different clefs, keys, &c. and their relation to each other is illustrated, and the different

terms, which occur in music, are explained. This closes the course as far as music alone is concerned; but a second course of the manual gives a similar succession of exercises on the combination of the musical tone with the sounds of language, beginning with the different vowels, proceeding thence to syllables and words, and lastly, giving a sort of song-grammar and rhetoric. Interesting as this portion of the work is, extracts from it would be of no use to our readers, as the difference between the German and English languages in the sound of their vowels and the accentuation of the words, renders the most excellent instructions calculated upon the former, almost totally inapplicable to the latter. As a valuable appendage to this manual, Nægeli has published different collections of songs, expressly adapted to the purposes of education, as regards both poetry and musical composition, a good translation of which, preserving the native simplicity of the original, would be an invaluable addition to the educational literature of this country, where the theatrical style and inappropriate words of the "songs as sung at the Theatres Royal," published for the higher classes, and the compilations of hackneyed tunes and miserable rhymes, made for the use of public charity schools, have done more to render that branch of education disgusting, than to illustrate its powerful effect upon the mind and feelings of the child.

If we were as precise as some people, about presenting every thing in order and system, we might have avoided the disorderly appearance which we know we are wearing in this chapter, by stating it as our intention to treat successively of the development of the eye, by the observation of nature; of the ear and voice, by the instruction in singing; and of the limbs and the whole body generally, by gymnastics and the acquisition of practical abilities. To this arrangement we do not see how any reasonable being can object, and we hope, therefore, our readers will bear with us, though we now introduce the last-named head, without any farther connexion with the preceding one, than the evidence contained in the present paragraph, that it would have been easy for us to have

established a close tie between them, had we chosen to "improve" our opportunity, and insert a few scraps of metaphysics.

Those who have attentively perused the account which, in the first part of this volume, we have given of the different undertakings in which Pestalozzi successively engaged, will no doubt recollect, that industry, carried even to the positive exercise of some trade or other, entered into his earlier experiments, and formed part of his *beau idéal* of education at the time when he wrote Leonard and Gertrude. Subsequently, however, he perceived the narrowness of that view, which would force the child into so miserable a form of existence as that, which, in our selfish state of society, man allots or allows to man, before he ever has an opportunity of apprehending what form of being the love of God had appointed him; which would make man altogether the creature of man, and let him know that he is the creature of God, only through a dead, and to him most unmeaning creed, whereby that which was destined to emancipate him from the vile slavery of this heartless, gainseeking world, and to raise him into the liberty of a child of God, is converted into an additional shackle upon his already too much degraded and oppressed existence. But while he saw on one hand the danger of making himself the tool, through which society might aim its tyrannical grasp at the helpless child, long before it could reach him directly, he perceived, with equal clearness, on the other hand, that of leaving him, without a proper development of all his powers, to become the victim of the overbearing demands of the world, and of the unregulated impulses of his own animal nature. Impressed with this twofold danger, he proposed to himself the question, "what are the means of developing in the child those practical abilities, which the ultimate purpose of his existence, as well as the changeable positions and relations of life, will or may require of him, and cultivating them to such a degree of perfection, that the fulfilment of his duties will be to him, not only possible or easy, but in reality a second nature?"

The remarks which he makes in reference to that question, are so characteristic of Pestalozzi's mind, and contain in themselves so much truth, that they are well worth transcribing.

"In endeavouring to impart to the child those practical abilities which every man stands in need of, we ought to follow essentially the same progress, as in the communication of knowledge; beginning from an alphabet of abilities, if I may so express myself, that is to say, from the simplest practical exercises, which being combined with each other, would serve to develop in the child a general fund of ability, to be applied to whatever purpose circumstances might render it necessary in after-life. Such an alphabet, however, has not yet been found, and that from the obvious reason, that it has not been sought for. I am not inclined to think that it would be very difficult to discover it, especially if the research were made with the same zeal, with which even the most trivial abilities connected with the operation of money-getting are attended to. If once discovered, it would be of essential benefit to mankind. It ought to comprise the simplest performances of the bodily organs of action, such as *striking, carrying, throwing, pushing, pulling, turning, twisting, swinging, &c.* Whatever manipulations may occur in any calling, may be reduced to some one or more of the simple actions and their combinations. The alphabet of abilities should therefore consist of a complete succession of them all, arranged in the order in which they follow each other practically, according to the structure of the human body, and the greater or less pliability of its different parts.

"Our popular education, of course, knows nothing whatever of a succession of exercises which would lead from those simplest performances, to the highest degree of bodily self-command, in which we might combine them in a variety of ways, and use our arms and legs, now in parallel, and then in opposite directions. The reason why these things are so entirely overlooked, is obvious. We have schools for spelling, for writing, for learning the catechism, but *we have no schools for the education of human beings.* Schools of the latter description, however, are by no means desirable in the eyes of those who wish to uphold religious and civil oppression, nor are they in anywise adapted to the sickly nervousness of our higher classes, whose energies are marred by the artificial position in which they are placed.
 "While the progressive march to be followed in the development of our abilities, is the same as ought to be pursued in the acquisition of knowledge, the former involves some advantages which the latter has not, or at least not to the same extent. In cultivating our practical abilities we are obliged to act, whereas knowledge may be obtained in an almost passive state; we need only open our eyes and ears. In this there is no exertion of the will, at least not so far as to qualify the impression to be received, the character of which depends, on the contrary, on the object of nature that is presented to our senses

at the time. But in the exercise of our abilities we are the prime movers, the originators of the fact itself; we determine and qualify the action which we intend to perform; and though we are obliged to confine ourselves within the limits which the law of our physical nature has prescribed to us in our powers and organs of action, yet we are not, as is the case in perception, mainly dependant on outward objects. The same principles by which the development of our practical abilities is regulated, ought also to preside over their application. Whatever is calculated to lead to a partial and merely fragmentary cultivation or use of those abilities, which are essentially required to satisfy the wants of human nature generally, and the claims of each peculiar calling and station, is contrary to the true art of education, because in discordance with that law of nature, which enjoins upon us the maintenance of harmony and equilibrium in our own state, as well as in the different relationships of life in which we are providentially placed. Every method of education, therefore, and every mode of life, every practical use of our powers and faculties, which has a tendency to disturb that harmony and equilibrium, ought to be a matter of serious uneasiness to those parents who have the peace and happiness of their children at heart. What else but this general want of equilibrium and harmony, both in the educated and uneducated classes of society, is at the root of all our sham-civilization, and our lamentable masquerade reforms and revolutions. The necessity of following the laws of nature in education, is as evident with regard to our practical abilities, as to the acquisition of knowledge. As the ultimate object of the alphabet of forms, and of intuitive instruction generally, is to lead us in the course of our mental development to clearness of ideas, so is the alphabet of abilities intended to lay the groundwork of future virtues, in the progress of our moral education. Self-command over our physical powers and movements, is as it were the apprenticeship of virtue, in the bondage of which we are to be kept until the development of higher powers assigns to our physical nature at once a subordinate position and a more elevated aim. Upon the attainment of practical abilities, positive rules are to be built, in the same manner as clear ideas upon distinct and comprehensive intuitions; and the former, as well as the latter, are to be summed up in definitions. I have before observed, that the error of letting definitions precede the intuitions, on which they ought to be founded, has the inevitable consequence of making men idle wordmongers; and a neglect of the practical abilities of life produces in this respect exactly the same effect, as the mistake of inculcating the doctrines of virtue and of faith, before a practical feeling of either has been produced in the mind."

The art of gymnastics, which has for its object to supply the deficiencies here mentioned by Pestalozzi, was not, at the time when he threw out these observations, as methodically

developed, nor as generally spread, as it now is. Rapid, indeed, was its rise in those days of fervid enthusiasm, when the German nation felt that the time was come for throwing off the disgraceful yoke of French oppression; when Jahn, at the head of the Berlin youths, formed on his gymnastic poles the vanguard of Blucher. But the shout of liberty which then was raised in Germany, was but a hollow sound which died away before the walls of Paris; and after the congress of Vienna had repealed the indiscreet promises proclaimed from the thrones in a time of need, the gymnastic places were laid waste throughout Germany, to remain melancholy memorials of unaccomplished hopes. Gymnastics, thus expatriated from the soil on which they were reared, did not meet elsewhere with that high flight of patriotism, with which they had been associated; and the attempt made in this country by Professor Völker, to make them the vehicle of an improved state of feeling among the mass of the people, ill repaid the efforts, and painfully disappointed the hopes, of that genuine disciple of old Jahn. In education, however, the value of this art seems to be daily more appreciated, and all that is to be desired is, that while it supersedes the lifeless machinery of military drilling, it may not degenerate into mere "callisthenics for young ladies and gentlemen."

CHAPTER XXIX.

Method of Teaching History.

IN the chapter on geography we have anticipated the subject of history so far as to show how it ought, in the pupil's mind, to be connected with the locality of every nation. But, however interesting the survey to which such a termination of the geographical course leads, it ought not, by any means, to form the groundwork of historical instruction; but only to establish the link which exists between the knowledge of the earth and the knowledge of man, in the same manner as, throughout the course of history, maps of the respective countries ought to be placed before the pupil's view. But, as the instruction of geography ought to present to the mind of the child the picture of divine wisdom and goodness, as set forth in the organization of nature, so in the same spirit should history be handled in such wise as to shew out the divine character, in the education of man from a state of sin and bondage to a state of holiness and dominion. Accordingly, that part of the annals of our species, which is commonly designated by the name of profane history, ought not to be separated from those authentic records in which the actings of God are directly laid open; for while in the latter the divine purpose is revealed, the former, if seen in its true light, shews the universal subserviency of all things to that purpose. The Bible furnishes to the historian not only the earliest documents, but also the key, by the aid of which alone the destinies of nations can be rightly apprehended; and on the

other hand, the chronicle of the world is a standing proof that the truth of revelation is not a matter of creed, but a matter of fact. Of this higher view, in which history becomes a running illustration of God's word, and revelation the torch by which the dark passages of history are cleared up, our divines and historians are, with a few exceptions, equally and totally ignorant; much less does it enter the minds of our school-history manufacturers. The knowledge of a number of detached facts, for the purpose of vain babbling, is all they aim at; and hence it is, that our young men read the bible without interest, and history without profit.

To remedy that crying defect in our present plans of education, is, however, not as easy as it is to point it out. It requires the whole of history to be re-written; the temples of idol-fame, which the different nations have erected for themselves and for each other, to be broken down, and the stones to be fitly framed together in a new edifice, in which the glory of God alone shall dwell. For any man to say, "I will perform this work," were idle presumption; even to say, "I will attempt it," is a mighty undertaking, to which we would not lightly pledge ourselves in uncertainty of the time which we may yet have at our disposal. We would rather avail ourselves of the present opportunity for the purpose of throwing out such hints as may direct the public attention to the subject, and lead teachers and parents, as far as it is possible with the means now extant, to adopt a better course. For the right understanding of what we shall have to say on the different stages of historical instruction, we will preface it by a concise outline of the field of history, as it presents itself to our view.

Following the division of time laid down in the Scriptures, we first distinguish four great periods, or *Aions*, which comprehend whatever is known of events, past or future, by both human and divine records. For although the Scriptures continually hold out the prospect of aions, nay, and of aions of aions beyond the one next following after that in which we now live, yet they do not give us of those countless and more

distant periods a prophetic history similar to that which we have of the fourth or next coming *aion*.

As regards the distinction between the four *aions* to which our information extends, they appear to us, according to the scriptural computation, to be linked into each other in such wise, that the first part of each subsequent *aion* coincides with the closing period of the preceding one; and accordingly between each two *aions* a space intervenes, which belongs equally to both, and which exhibits the struggle between the things that were, and the things that shall be. Requesting our readers to bear this point in mind, we shall now endeavour to fix the different eras according to the data with which scripture supplies us. We are informed that the first coming of Christ in humiliation, to take away sin by the sacrifice of himself, happened "*at, or towards the end of the aions,*"* and the apostle speaks of himself and the believers of his time, as of those "*upon whom the ends of the aions are come.*"† From this it appears, not only that *at, or about*, the first coming of Christ one *aion* terminated and another began, but also that preceding that period there was more than one *aion*. On inquiring farther for the divisions which are made in scripture of the time previous to the first coming of Christ, we find that there is but one mentioned, viz. that between the *antediluvian* and the *postdiluvian* world. St. Peter calls the former "*the old or primitive world,*"‡ whom God spared not; and the obvious inference, that the flood forms the landmark between the two *aions*, at the end of which Christ came, is confirmed by the parallel instituted by Jesus himself between "*the days of Noe,*" and the "*coming of the Son of man,*"§ which is characterised in the prophecy from the Mount of Olives, as "*the end of the aion,*"|| that is, of the

* Ἐπὶ συντελείᾳ τῶν αἰώνων, εἰς ἀθέτησιν ἀμαρτίας διὰ τῆς θυσίας αὐτοῦ πεφανερωταί. Hebr. ix. 26.

† Εἰς οὓς τὰ τέλη τῶν αἰώνων κατήντησεν. 1 Cor. x. 11.

‡ Ἀρχαίου κόσμου οὐκ ἐφείσατο. 2 Pet. ii. 5.

§ Matth. xxiv. 37—39.

|| Matth. xxiv. the whole chapter from verse 3, in answer to the question: τί τὸ σημεῖον τῆς σῆς παρουσίας, καὶ τῆς συντελείας τοῦ αἵωνος;

present aion, and is so spoken of likewise in the parables of the kingdom and final judgment.* The last-named passages, while they confirm the distinction made between the antediluvian and postdiluvian world, at the same time indicate the close of the present and beginning of the next aion, to be laid at or about the second coming of Christ in glory, to judge the world, and establish his kingdom of everlasting righteousness. Thus we obtain the following outline of that portion of the existence of the universe of which we have knowledge.

AION THE FIRST. From the day when "God created the heaven and the earth," to the day when "every living substance was destroyed, which was upon the face of the ground, both man, and cattle, and the creeping things, and the fowl of the heaven; when they were destroyed from the earth."

AION THE SECOND. From the day when God spake to Noah: "Behold, I, even I, do bring a flood of waters upon the earth, to destroy all flesh, wherein is the breath of life, from under heaven; and every thing that is in the earth shall die: but with thee will I establish my covenant," unto the day when "Zion was plowed as a field, and Jerusalem became heaps, and the mountain of the house as the high places of the forest."

AION THE THIRD. From the day when the angel Gabriel spoke unto the Virgin Mary: "Thou shalt conceive in thy womb, and bring forth a son, and call his name Jesus; he shall be great, and shall be called the Son of the highest: and the Lord God shall give unto him the throne of his father David, and he shall reign over the house of Jacob for ever, and of his kingdom there shall be no end;" unto the day "in the which the heavens shall pass away with a great noise, and the elements shall melt with fervent heat; the earth also and the works therein shall be burned up."

AION THE FOURTH. From the day when "Elias shall come and restore all things" to time unknown.

* Ὁ θεισμὸς συντέλεια τοῦ αἰῶνος ἐστίν. Matth. xiii. 39, and, οὕτως ἔσται ἐν τῇ συντελείᾳ τοῦ αἰῶνος. Ib. 49.

As the connecting links between these four aions, we have the three most eventful periods of the history of the world:

1. *Between the beginning of the second, and the end of the first, Aion.* The time during which the long suffering of God waited in the days of Noah, while the ark was preparing, which was a testimony unto the world that then was, and ended in its condemnation and destruction by the waters of the flood.

2. *Between the beginning of the third, and the end of the second, Aion.* The day of salvation, which was preached unto the Jews by the son of God himself, and through his apostles by the power of the Holy Ghost; and which ended, in the casting off, for a season, of unbelieving Israel, and the destruction of the city and temple by the accumulated power of the heathen world, united in the hands of the Roman emperor.

3. *Between the beginning of the fourth, and the end of the third, Aion.* The anticipated day of testimony to the truth of God's holy word, by the restoration of his ancient people, and the re-establishment of the throne of David, attended by fearful visitations upon the apostate Gentile churches, and ending in the destruction of this present world by fire; after which is the establishment of a new heaven and a new earth, in which dwelleth righteousness.

Of these aions it is obvious, that the first and second only, with that portion of the third which is already elapsed, fall under the province of history, and that the remainder of the third, together with the fourth, appertain exclusively to the subject of religion, being the testimony of God's purpose, intelligible to none but the church, by faith. Leaving, therefore, the latter out of the question at present, we shall proceed to state in what manner the child should be made acquainted with the events comprised within the limits of the former, in order to render his knowledge available for that high purpose which we have pointed out at the beginning of this chapter.

Considering the charms which history has for the child-

like mind, we are inclined to advocate its introduction at a far earlier period than is generally the case, provided it be done in an appropriate form, so as to prove at once interesting and instructive. To make a child read or get by rote a historical catechism, full of names and dates without life or meaning, can serve no other end than that of gratifying parental vanity; but to communicate to him the simple records of antiquity, in slow and regular succession, is administering wholesome food both to the mind and heart. The narrative ought, at least at the beginning, to be orally given, in the plainest language of which the teacher is capable, and from time to time the child called upon to state, by word of mouth, or by writing, the impression he has retained of it. For the very first course we would recommend nothing farther to be given than the chief incidents of the history of the patriarchs, and of the Jewish people during the two first aions, introducing the other nations only where they come in contact with the Jews. At the close of the second aion, the life of Christ, and the history of the early church, would come in, and with this a course of national history, taking up our barbarian ancestors in the state in which Christianity found them, might appropriately be connected. To prevent the child's attention in the last-named course from being distracted by too great a variety of events, it may at first be confined to a history of the national church; and, with this view, we have actually written a series of tales illustrative of the history of the Christian church in this country, from the first conversion of the Anglo-Saxons by Augustine, to the times of the Reformation. This little work, which is now preparing for publication, we intend following up, as we may have leisure, by several series of tales in the same style, so that the whole may form a complete history of England for children.

After this first, or infantine course, the teacher should resume the subject from the beginning, but on a more enlarged scale, in a manner adapted to the increasing maturity of the pupil's mind. For this purpose the second and third aions should be subdivided into shorter periods, for the easier

survey of the materials; according to the leading events by which, in the second aion the Jewish people, and in the third the Christian church, were affected. This would give the following outline:

AION THE FIRST.

FROM THE CREATION TO THE FLOOD.

1657 YEARS.

No subdivision.

The last 99 years coinciding with the first 99 of the next Aion.

AION THE SECOND.

FROM THE FLOOD TO THE DESTRUCTION OF JERUSALEM.

2518 YEARS.

Period the first.

From the salvation of Noah to the election of Abraham.

466 years.

Period the second.

From the election of Abraham to the bringing up of the children of Israel out of Egypt.

491 years.

Period the third.

From the bringing up of the children of Israel out of Egypt, to the violation of the Jewish Theocracy by the choice of Saul.

396 years.

Period the fourth.

From the violation of the Jewish Theocracy by the choice of Saul, to the Babylonian captivity.

496 years.

Period the fifth.

From the Babylonian captivity to the influence of Alexandrian learning upon the Hebrew language and literature, and the promulgation of the Old Testament in Greek.

322 years.

Period the sixth.

From the influence of Alexandrian learning upon the Hebrew language and literature, and the promulgation of the Old Testament in Greek, 277 years, to the beginning of

AION THE THIRD.

FROM THE BIRTH OF CHRIST TO THE PRESENT TIME.

1831 YEARS.

Period the first.

From the birth of Jesus Christ, 70 years, to the destruction of Jerusalem.

[Duration of Period VI. of Aion II. 347 years.]

END OF THE SECOND AION.

From the destruction of Jerusalem, 255 years, to the degradation of Christ's church by the protection of worldly power, under Constantine the Great.

[Duration of Period I. of Aion III. 325 years.]

Period the second.

From the degradation of Christ's church by the protection of worldly power, under Constantine the Great, to the establishment of the great eastern corruption of Christianity by the false prophet Mahomed.

297 years.

Period the third.

From the establishment of the great eastern corruption of Christianity by the false prophet Mahomed, to the final triumph of its great western corruption under Pope Hildebrand.

452 years.

Period the fourth.

From the final triumph of the great western corruption of

Christianity under Pope Hildebrand, to the acknowledgment of that corruption in Protestantism.

443 years.

Period the fifth.

From the acknowledgment of the corruption of the Christian church in Protestantism to the present time.

314 years.

As it is perfectly impossible within the limits of the present volume to enter into any thing like details on so vast a subject, we shall content ourselves with subjoining concise synchronistic tables of the leading groups of events which fall within the limits of each of the periods above specified, from the beginning of the second aion, omitting, for the more convenient computation of time, the first ninety-nine years, which form the end of the first, as well as the beginning of the second, aion; so that the first year is, as in general chronology, that of the covenant with Noah after the flood.

JEWS.	
<p>ARON II. <i>Period 1.</i></p>	<p>The Covenant of God with Noah,</p>
<p>100 —</p>	<p>The confusion of languages, and</p>
<p>200 —</p>	
<p>300 —</p>	
<p><i>Period 2.</i></p>	<p>Election of Abram. Covenant of Circumcision.</p>
<p>400 —</p>	<p>Promise of reconciliation by the sacrifice of a son of Abraham.</p>
<p>500 —</p>	<p>Isaac declared sole heir of the promises.</p>

GENTILES.	
universally binding upon all mankind.	AION II. Period 1.
scattering abroad of the nations.	100
	200
	300
	Period 2.
Destruction of Sodom and Gomorrha.	400
	500

AION II. <i>Period 2.</i>	JEWS.
	<p>Jacob acquires the birthright of his brother, and the inheritance of the promises.</p> <p>Joseph sold into Egypt. Israel and his sons settle in Egypt.</p> <p>Death of Joseph.</p> <p>Bondage of the children of Israel.</p>
<i>Period 3.</i>	<p>Moses brings up the children of Israel out of Egypt: promulgation of the law.</p> <p>Conquest of the land of Canaan.</p> <p>The nations left in the land prove thorns in the sides of the children of Israel.</p>

GENTILES.	<i>Period 2. AION II.</i>
	— 600
	— 700
	— 800
Egypt waxing great under King Sesostriis.	<i>Period 3.</i>
	— 900 1000

AION II. <i>Period 3.</i>	JEWS.
1100 —	<p>The nations left in the land prove thorns in the sides of the children of Israel.</p>
1200 —	<p>The ark of the covenant in the hands of the Philistines.</p> <p>National repentance and victory over the Philistines.</p>
<i>Period 4.</i>	
1300 —	<p>The children of Israel reject Jehovah their king;—Saul.</p> <p>David anointed by Samuel.</p> <p>David stopped from building a house for Jehovah to dwell in.</p>
1400 —	<p>Solomon builds the first temple, which is filled with the glory of the Lord.</p> <p>Separation of the two kingdoms of Israel and Judah.</p> <p>Elijah the prophet sent to forewarn the kingdom of Israel of its approaching ruin.</p> <p>Elisha rises up after the ascension of Elijah.</p> <p>The prophet Jonah sent unto Nineveh.</p>
1500 —	

GENTILES.	<i>Period 3. AION II.</i>
<p>Rise of the Assyrian Empire under Ninus and Semiramis.</p>	<p>— 1100</p>
<p>The Greek pirate expeditions bring the Asiatic and European coasts of the Mediterranean in contact.</p>	<p>— 1200</p>
<p><i>Period 4.</i></p>	
<p>The Phoenicians distinguished by their skill in arts and manufactures. King Hiram a friend of the Jews.</p>	<p>— 1300</p>
<p>Tyrannical reign of the Egyptian kings. Cheops. Building of the Pyramids.</p> <p>Dawning of civilization in Greece. Lycurgus the legislator of Sparta.</p>	<p>— 1400</p> <p>— 1500</p>

AION II. <i>Period 4.</i>	JEWS.
1600 —	<p>The prophet Joel. The prophet Amos.</p> <p>The prophet Hosea.</p> <p>The prophets Isaiah and Micah. The ten tribes carried into captivity by the Assyrians. The prophet Nahum.</p>
1700 —	<p>The prophets Zephaniah and Habakuk. The prophet Jeremiah.</p>
<i>Period 5.</i>	<p>The kingdom of Judah captive under Babylon. The prophets Daniel, Ezekiel, and Obadiah.</p>
1800 —	<p>Return from the captivity. The prophets Zechariah and Haggai. Dedication of the second temple.</p>
1900 —	<p>Ezra exerts his authority to cleanse Israel from amalgamation with the Gentiles. The people of Israel solemnly renew their covenant with God.</p> <p>The prophet Malachi.</p>
2000 —	

GENTILES.	Period 4. AION II.
The Phœnicians by their colonies spread commerce and manufactures along the coasts of the Mediterranean, and even beyond the pillars of Hercules.	1600
The Olympic games form a central point for the national development of the Greek tribes.	
The Assyrian empire is at its height, under Phul and Tiglath Pilezar.	
The Assyrian power begins to decay; the Medes rise under Dejoces.	1700
Origin of Rome; destruction of its mother-city, Alba Longa. Spartan ascendancy in Greece. The power of Egypt broken; division into twelve kingdoms.	
Zerdusht restores the worship of Ormuzd in Iran. The Babylonian empire raised up under Nebuchadnezzar.	
The Assyrian kingdom overthrown by Nebuchadnezzar. Athens, flourishing under the laws of Solon, the rival of Sparta. China reformed by Confucius. The Phœnicians in the East subject to the Medes and Persians; rise of the Carthaginian power.	Period 5.
The Babylonian empire overthrown by the Medes and Persians.	1800
Egypt made subject to the Medes and Persians. Origin of the constitution of the Roman republic.	
Greek civilization spreading over Sicily and the south of Italy.	
Decay of the empire of the Medes and Persians. Rise of the Macedonian power.	1900
Arts and sciences flourishing in Greece.	
The Greeks destroy their own power by civil wars.	
The Sicilian Greeks struggling with Carthage.	2000

AION II. Period 5.		JEWS.
		Jaddus, the high priest, finds favor in the eyes of King Alexander.
		Jerusalem taken by the Egyptians under King Ptolomy.
		Arrangement of the Old Testament Canon under Simon the Just.
Period 6.		The Old Testament made accessible to the whole civilized world, by the version of the lxx.
2100	—	
		The high priesthood made venal by Antiochus Epiphanes.
		Restoration of the ancient worship under Judas Maccabæus, after the cruel persecutions of Antiochus Epiphanes.
2200	—	The Jews in Egypt build a rival temple at Heliopolis.
		Mutual persecutions of the rival sects, especially Pharisees and Sadducees.
		Pompey profanes the temple by entering into the Holiest of Holies.
2300	—	
		Herod made King of Judæa by the appointment of the Romans.
2349	—	AION III. PERIOD I.
		Birth of Jesus Christ.
		St. John the Baptist.
		Christ's ministry, crucifixion, resurrection, and ascension.
		St. James, Bishop of the Apostolic Hebrew church at Jerusalem.
		Incessant troubles and rebellions against the Roman governors.
		The Apostolic Hebrew church in Jerusalem takes refuge in Pella.
70	—	End of Aion II.
		Destruction of the temple and city by the Romans under Titus.
		The Revelations of St. John. Close of the New Testament Canon.
100	—	
		The Kabbala published.
		Renewed persecution against the Jews in consequence of their rising under Bar-Cochab.
		Consequent extinction of the Apostolic Hebrew church.
		Jerusalem rebuilt as a Roman city; the Jews prohibited from entering it.

GENTILES.		Period 5. AION II.
The empire of the Medes and Persians overthrown by Alexander the Macedonian. Egypt re-established, and the Greek kingdom of Syria founded upon the ruins of the Macedonian empire. Alexandria in Egypt the seat of civilization.		
The Roman power rising in Italy.		Period 6.
		— 2100
Struggle between the Roman and Carthaginian powers.		
The Syrian power broken by the Parthians under Mithridates. 1 st Carthage, Greece, and Macedonia, become subject to Rome.		— 2200
First symptoms of the approaching dissolution of social order in the Roman republic.		
Civil wars between Marius and Sylla.		
Pompey is defeated in his civil war against Cæsar.		— 2300
Egypt, and all the smaller kingdoms established on the ruins of the Macedonian, become subject to Rome. Rome herself subject to Cæsar Augustus.		
AION III. PERIOD I.		— 2349
Tyrannical sway of the Roman emperors, who lay claim to the divine title and worship. St. Paul, the apostle of the Gentiles. First general persecution of the church under Nero.		
End of Aion II.		— 70
Second general persecution of the church under Domitian. Third persecution of the church under the emperor Trajan. Peaceable reigns of Hadrian, and Antoninus Pius. Spread of Christianity in the eastern and southern parts of the Roman empire.		— 100

AION III. <i>Period 1.</i>		JEWES.
200	—	<p>The great dispersion. Judah Hakkadosh publishes the Mishnah. Believing Jews, dispersed members of the Apostolic Hebrew church, are treated as heretics for their adherence to the law.</p>
	—	<p>Circumcision prohibited by the Roman emperors with a view to extirpate the Jews. The Jews allowed to return to Jerusalem, and the persecutions against them stopped by Alexander Severus.</p>
300	—	<p>Rabbi Jochanan publishes the Talmud of Jerusalem.</p>
	—	<p>Persecuting edict of the council of Elvira against the Spanish Jews.</p>
<i>Period 2.</i>		The Oriental schools of the Jews flourish, especially in Persia.
400	—	<p>The Jews persecuted by Constantine. Mutual persecutions of Jews and Christians in the East. The Jews attempt the rebuilding of the temple, but are prevented by subterraneous fire.</p>
	—	<p>Rabbi Barrabanus assists Jerome in his translation of the Old Testament.</p>
500	—	<p>The patriarchal dignity in the West extinct.</p>
	—	<p>Persecution of the Jews in Persia.</p>
600	—	<p>Publication of the Talmud of Babylon.</p>
	—	<p>The liberty of worship suspended by the edicts of Justinian. Renewed violent persecution in Persia.</p>
<i>Period 3.</i>		<p>The Jews protected in Italy by Pope Gregory the Great.</p>
		<p>Persecution of the Jews by Mahomed.</p>

GENTILES.	<i>Period 1. AION III.</i>
<p>Christian missionaries visit the Gælic and Teutonic tribes in France, Britain, and Germany.</p> <p>Renewed persecutions against the church under Marcus Aurelius and Severus.</p>	— 200
<p>First Christian temple by permission of Alexander Severus.</p> <p>The Germanic nations attack the Roman empire.</p> <p>Great falling away in the church during the persecution of Decius Trajanus.</p> <p>Corruption of the clergy, and Ascetic abuses.</p> <p>The Persian power rising under the Sassanides.</p> <p>Fearful persecution of the church under Diocletian.</p> <p>The Roman empire distracted by rival pretenders to the imperial dignity.</p>	— 300
<p>The church foregoes the protection of her invisible head for that of the Roman emperor.</p>	<i>Period 2.</i>
<p>Persecution of the church under Julianus Apostata.</p> <p>Division of the Roman empire by Theodosius.</p> <p>The church engaged in struggles against heretics.</p> <p>The Visigoths found a new kingdom in Spain.</p> <p>The whole civilized world overrun by the Huns under Attila.</p> <p>Separation between the eastern and western churches.</p> <p>The monarchy of the Franks founded by Clovis.</p> <p>Christianity established among the Franks.</p>	— 400
<p>The Ostrogoths found a new kingdom in Italy.</p> <p>The Benedictine order of monks founded.</p> <p>The Eastern empire flourishes awhile under Justinian.</p> <p>The kingdom of the Lombards in Italy. The Ostrogoths overthrown.</p>	— 500
<p>Christianity established among the Saxons in Britain.</p>	— 600
<p>The Eastern corruption of Christianity set up by Mahomed.</p>	<i>Period 3.</i>

AION III. <i>Period 3.</i>	JEWS.
700	Compulsory conversions of the Jews in Spain.
	The Jews in the Greek empire compelled to worship images.
	The Jewish Schools in the East protected by the Caliphs.
800	Great influence of the Jews at the court of the Franks under Lewis the Debonnaire. Spite of the Christian prelates against them.
	Persecutions against the Jews in the East towards the decline of the Caliphate.
900	The Jews in Spain are favored by the Arabs.
1000	The Jews in England banished from the kingdom.
	The Jews in Spain are favored and honoured both by the Arab and the Christian princes.
<i>Period 4.</i>	General persecution against the Jews in all Europe by the Crusaders.
1100	

GENTILES.	<i>Period 3. AION III.</i>
Establishment of the Caliphate by the Arabs, on the ruins of the Persian kingdom.	700
The Arabs overrun the North of Africa and the South of Europe, and settle in Spain.	
The Pope acquires temporal possessions in Italy.	
Charlemagne restores the dignity of Roman Emperor. The kingdom of Lombardy united with that of the Franks. Most of the German tribes conquered and converted.	800
The first Legends are published; growth of superstition and corruption in the Roman church.	
Decline of the Caliphate.	
The monarchy of the Franks divided. Kingdoms of Lombardy, Burgundy, France. German empire.	900
The power of the Greek empire broken.	
Origin of the Turkish power.	
The nations in the north of Europe, Scandinavians and Slavonians, receive Christianity.	
The Roman and Greek churches renounce all communion with each other.	
The Western corruption of Christianity triumphs under Pope Hildebrand.	<i>Period 4.</i>
The Gentile kingdom of Jerusalem founded.	
The Roman church and empire divided by factions.	
Origin of the Waldenses.	

AION III. <i>Period 4.</i>	JEWS.
1200	<p>The Jews protected by Pope Alexander III. Rabbi Aben Ezra introduces sounder biblical criticism. Rabbi Maimonides publishes his celebrated commentaries and treatises.</p>
1300	<p>Schism between the Talmudistic and Caraitic Jews. The thirteenth and fourteenth centuries present a continued series of the most atrocious persecutions against the Jews in all parts of Christendom, occasionally mitigated by the popes.</p>
1400	<p>Conference between Jews and Christians at Rome, under Benedict XIII. In Spain the Inquisition is set on foot, and directed against the Jews, who are at last expelled, and experience the same fate in Portugal, where an asylum had been offered to them.</p>
<i>Period 5.</i>	<p>The persecution relents in those countries in which the cause of the Reformation prospers. The Talmud burnt by order of Pope Julius III. Violent persecutions in Persia, Hungary, and Moravia. Rabbi Gadaliah fails in his attempt to reunite the Talmudistic and Caraitic Jews. 1600 — The Jews banished from France. General council of the Jews in the plain of Ageda, to investigate the question of the Messiah, interrupted by monkish zealots.</p>

GENTILES.	Period 4. AION III.
The Gentile kingdom of Jerusalem overthrown by Sultan Saladin.	
Rise of the Scandinavian powers. Dawning of liberty in England. Magna Charta. Rise of the Mongolian power under Gingis Khan. Italy divided into a number of small republics.	— 1200
Flourishing state of the German empire under Rodolph the Great.	
Freedom rising in Switzerland.	— 1300
Rise of Poland. Scandalous schism in the Roman church. Antipopes. Wicliff preaches against the corruptions of Rome. John Huss and Jerome of Prague burnt by order of the council of Constance. Invention of the art of printing.	— 1400
Overthrow of the Greek empire by the Turks.	
Rise of Portugal and Spain; the Arabs expelled.	
Discovery of America.	
The Sofis found a new empire in Persia. The Portuguese establish a kingdom in the East Indies.	— 1500
The corruptions of the Roman church are denounced in Germany, Switzerland, England, Scotland, and France. The united power of Austria and Spain supports Rome. The order of Jesuits founded.	<i>Period 5.</i>
The cause of the Reformation triumphs in Holland, and is suppressed in France by the murders of St. Bartholomew.	
Dutch and English settlements in the East Indies. The Reformation spreads in the North. The papal power declines.	— 1600
After a long and sanguinary war the Reformation is acknowledged in treaties; but its spirit is lost.	

AION III. Period 5.		JEW.
		The Jews persecuted at Vienna, protected in Italy under Pope Innocent XI.
1700	—	<p>The Jews live during this century</p> <p>in the different countries of Christendom</p> <p>in a state of comparative peace,</p> <p>yet under great civil oppression.</p>
1800	—	<p>The Jews admitted to civil rights in France.</p> <p>Sanhedrin of Paris by order of Napoleon.</p> <p>Mob persecutions in different parts of Germany.</p> <p>Revival of the Apostolic Hebrew church.</p>

We have given these tables with the double view of supplying the teacher with a compendious outline of the principal masses of events to which he has to direct his attention in order to make the course answer the purpose for which it is intended, and of illustrating, at the same time, as far as the compass of our scale would permit it, the manner in which, after the pupil has been made acquainted with a certain quantum of details, he should himself be called upon to arrange them under one general view. But we would expressly caution the teacher not to lay such tables as these before his pupils to begin with; for nothing is so ill calculated to excite attention in children's minds, as the exhibition of an intellectual skeleton. On the contrary, nothing is more calculated to awaken their interest, than a simple historical sketch, without note or comment, in which all the details are filled up *con amore*. To enable him to draw such pictures, the teacher ought as much as possible to consult the original writers, whose primitive style of narrative is far more adapted to the child's mind than the bombastic and purposely involved *raisonnement* of our modern historians. The perusal of works of the latter description may be interesting to those who, by

GENTILES.	Period 5. Aion III.
Britain gains ground in the West Indies, and in North America.	
Rise of the Russian power under Peter the Great.	— 1700
Rise of the Prussian power under Frederick the Great.	
Britain the queen of the seas.	
The Jesuit order disbanded. Spoliation of Poland.	
Establishment of federative democracy in America.	
Anarchy and infidelity enthroned in France.	
The continent of Europe held under military despotism by Napoleon.	— 1800
The tyranny of the Holy Alliance substituted in its place.	
The foundations of the different states in Christendom shaken.	

a study of the former, are already acquainted with the substance of history, but they are utterly unfit to convey a knowledge of that substance in the first instance.

As regards the tabular survey of what the pupil has learned, we need not, after the sample which we have given, say much more. The plan of placing the events at distances proportionate to their chronological intervals, and keeping throughout the whole set of tables one and the same scale, will be found very useful as an *intuitive* means of impressing, without any difficulty, that most tedious subject, chronology. The teacher should, after the pupils have made their surveys each in his manner, present to them a survey drawn up in his own manner; and this ought always to be executed on the largest possible scale, and with as much subdistinction as can, without creating confusion, be introduced. Thus, for instance, had we had more room, we should in the above tables have kept parallel columns both on the Jewish and on the Gentile side; on the Jewish side, from the middle of the fourth period of the second aion, two, for the distinction of the kingdoms of Judah and Israel; and in the third aion,

besides a blank column for Israel, whose history, and even dwelling-place is unknown, as many columns as the countries into which the tribes of the kingdom of Judah were dispersed. On the Gentile side, in like manner, we should have put as many parallel columns, as nations and empires rise and fall one after another. When the pupils have once been led through a general course of history in this manner, the teacher may afterwards take up any particular period, or any particular nation, and give its history still more in detail; and, as a number of special maps may be drawn after the general outline of the earth has been sketched on the globe, so may special tables be drawn up of particular parts of history, subordinate to the general synopsis which we have laid down.

Concerning the extent and duration of each course, the teacher must be guided by the peculiar circumstances of his pupils; but we should say, that in general, where time can be obtained for it, he should endeavour to give, as a last course, a history of the human mind, which would comprehend the rise and progress of arts, sciences, and literature, and the various changes which the views of mankind concerning God, the world, and man himself, have undergone at different periods; or, in other words, a history of philosophy and religion. We must content ourselves with pointing out this subject, which we consider as the crown of history, and which has hitherto been almost totally neglected; for were we to enter into it with a view, not to illustration of details, but even to mere adumbration, we should be compelled vastly to exceed our already too much extended limits. We will, therefore, conclude our chapter by observing, that in addition to the first, or infantine course of English history, a second course should be gone through, which, to be in keeping with that pointed out for universal history, ought not to follow the usual plan of division according to the lives of the successive kings, but to exhibit in its arrangement the leading points which influenced the destinies of the nation. The following synopsis of the eight principal periods may serve as an illustration.

PERIOD 1.

From the first visit of the Romans on the coasts of Britain,
to the invasion of the Anglo-Saxons.

504 years.

PERIOD 2.

From the settlement of the Anglo-Saxons in Britain to the
Norman conquest.

617 years.

PERIOD 3.

From the Norman conquest to the granting of the Magna
Charta.

149 years.

PERIOD 4.

From the granting of the Magna Charta to the dawn of
the Reformation.

167 years.

PERIOD 5.

From the dawn of the Reformation to the establishment of
the Protestant church.

177 years.

PERIOD 6.

From the establishment of the Protestant church to the
revolution of 1688.

129 years.

PERIOD 7.

From the revolution of 1688 to the close of the Ameri-
can war.

95 years.

PERIOD 8.

From the close of the American war to the time of parlia-
mentary relief and reform.

(48 years to 1831.)

CHAPTER XXX.

Method of Teaching Classical and Foreign Languages.

IN order to make the application of Pestalozzi's principles to the study of foreign and classical languages, it is necessary to consult the genius of each particular language. This important fact being overlooked by Pestalozzi and his first disciples, is the reason why all the attempts made by them to subject this province of education to the laws of his method, proved abortive. The experiment could not be made with any chance of success by men who, however competent to teach the first rudiments of a language, had not a comprehensive view of its organic structure, its historical development, its idiomatic character and its literature; and men whom their learning would have qualified for the task, were generally too much "bookified" to make themselves otherwise than superficially acquainted with the principles of Pestalozzi, and still less would they have condescended to what they considered the drudgery of teaching the elements. This circumstance, together with the extravagant notions entertained by the Pestalozzian school of the virtues of the Mother's Manual, which was considered as a sort of nostrum for the development of the "organ of language," arrested the progress of the method in this direction, and brought the very idea of teaching classical and foreign languages in a Pestalozzian manner, into merited, though not well-founded, disrepute. We are not vain enough to imagine, that any thing we may say on the subject, can altogether remove so deeply rooted a prejudice; wherefore, leaving the vindication of the Pestalozzian method in this respect to the evidence of

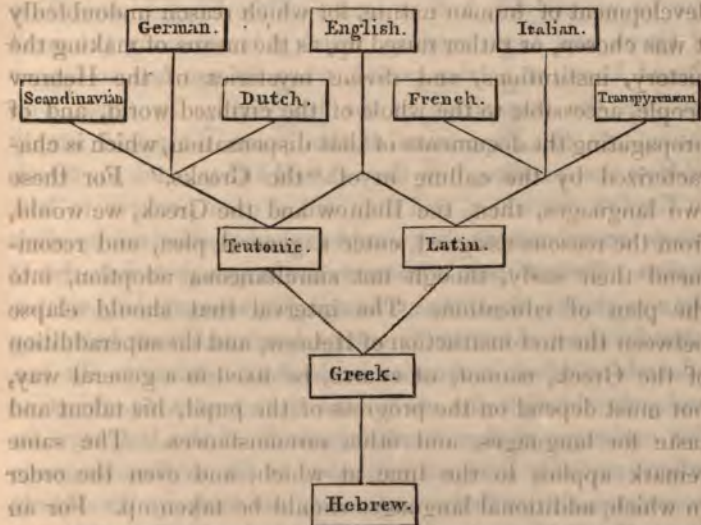
facts which time alone can establish, we will address ourselves, in the present chapter, to those who, without a decided view on either side of the question, are sensible of the defects of the old grammar system, as well as of the charlatanery of Hamiltonian and Jacototian devices, and who will, therefore, be thankful to be put in the way for a better plan of proceeding.

As every language, to be properly taught, requires a separate course to be traced out for it, our readers will not expect that we should enter upon every one of the languages which in this country commonly form a part of "liberal education;" it will be sufficient for us to state generally in which order we would have the different languages taught, and then to exemplify our plan with reference to one or two of them, which are generally considered as presenting the greatest difficulties. Consulting only the relative value of the different languages for the great purpose of education, to the exclusion of all adventitious circumstances, we should add a course of Hebrew to the instruction of the mother-tongue, as soon as the child is able to construct, and write of himself, such simple sentences as we have specified in the twenty-fourth chapter, p. 262-272. We give the precedence to the Hebrew, because it is not only the most ancient, but also the most simple language, and therefore the best adapted for instruction at an early age; besides which, as the language first made use of for the purposes of revelation, it has a peculiar claim to the attention of every one to whom the actings of the divine mind are more interesting than the productions of human genius. With the professed zeal of a great portion of our public for the interests of religion, it is astonishing to see how few there are, that take a delight in studying the original languages of Scripture; and how many, both among the laity and the clergy, sacrifice years to the attainment of profane literature, whilst the treasures of sacred literature have, perhaps, never engaged their attention. The practical infidelity which lurks beneath this complacent resting in a "cut and dried" religion, whose original records do

not in the least awaken even mere curiosity, is in our opinion a far worse feature in the aspect of the religious world, than the doctrinal blunders, and fanatical misconceptions, which the idiomatic expressions of Scripture have given rise to in the heads of uneducated zealots. The time, however, when these evils are silently endured, will not last much longer; for though the indolence of man would protract the period of ignorance, the hastening development of the divine purpose, during which every religious notion will be put to the severest test of both internal and external evidence, cannot fail to arouse those with whom religion is more than a mere garment, to a careful study of the inspired volume.

But we return to our subject. Next to the Hebrew language we should propose the Greek to be taken up, as that language which bears the stamp of the freest and fullest development of human nature, for which reason undoubtedly it was chosen, or rather raised up, as the means of making the history, institutions, and divine mysteries of the Hebrew people, accessible to the whole of the civilized world, and of propagating the documents of that dispensation, which is characterized by the calling in of "the Greeks." For these two languages, then, the Hebrew and the Greek, we would, from the reasons assigned, enter a general plea, and recommend their early, though not simultaneous adoption, into the plan of education. The interval that should elapse between the first instruction of Hebrew, and the superaddition of the Greek, cannot, of course, be fixed in a general way, but must depend on the progress of the pupil, his talent and taste for languages, and other circumstances. The same remark applies to the time at which, and even the order in which, additional languages should be taken up. For an English child, we should prefer to let the Greek be followed by the Anglo-Saxon, which would not only lay the foundation for a fundamental knowledge of the mother-tongue, but through the medium of the other Teutonic dialects, would also lead to the modern German, and any of its kindred tongues, which it might be desirable for the pupil to acquire.

On the other hand the Latin should, in our opinion, be taught, somewhat later than the Anglo-Saxon, upon the foundation of the Greek; and while it would serve to enlighten the pupil concerning the changes which the Anglo-Saxon underwent in its historical development, till it assumed the modern English form, it would, likewise, render the acquisition of any of the modern idioms of the Latin tribe extremely easy. It requires not much reflection to perceive, how much more interesting the different languages would be to the child, if thus learned in the order in which they spring from each other; especially if the teacher follow, as he ought to do, the progress of each particular language through the different stages of its development. The following table will, at one glance, illustrate the connexion in which we view these languages:



In a similar wise would the different tribes of Oriental languages arrange themselves around the Hebrew, as the common centre. These, however, are foreign to our present purpose, and we shall therefore at once proceed to the practical part of our subject, taking the Greek language by way of

example, and illustrating, as far as it is possible in a work of this nature, the method of teaching which we would recommend. It is, however, necessary to observe, that we shall confine ourselves here to the idiom of Homer, which ought in the first instance to be taken up exclusively, and without reference to, or mention of, the subsequent forms of the Greek language, in conformity with the principle already laid down, that the progress of instruction in every language ought to follow that of its historical development, so far as the knowledge of it has been preserved in the relics of its literature. In addition to this we should premise, that on account of the great use which is to be made of the *living sound*, even in the instruction of dead languages, the teacher ought, at first, and until the pupil be tolerably familiar with the language, to make use of its native pronunciation, so far as it can be ascertained, and to introduce the English corruption of Greek and Latin reading, which it is necessary the pupil should know, at a later period, when its use can no longer obstruct the acquisition of the language. To those, who cannot see the importance of this point, we would simply address the question, how they should like to teach the Greek in English characters, and they will at once perceive to how many inconveniences they would expose themselves by such a plan. Now if those who teach the language as a matter of the eye chiefly, object to exchanging its characteristic written signs for those of another language, how much more have they who address their instruction in the first instance to the ear, and only through the ear to the eye, reason to object to the exchange of the idiomatic sounds of the language for others, perfectly foreign to it, and, as far as that language is concerned, perfectly barbarous, not only in the Greek, but in the English acceptance of that term. No one is now willing to incur the charge of ignorance by advocating the English pronunciation of the classical languages; the only plea for resisting its abolition is the practical difficulty arising from the universal prevalence of that pronunciation. We feel the full weight of this objection, and certainly think it

indispensable that the pupil should be made acquainted with that pronunciation which alone will make his Greek or Latin intelligible in this country; but we think it may safely be postponed until a certain degree of proficiency has been attained, so as to let the pupil have the full benefit of the original sounds in the acquisition of the language. It may not be uninteresting, in connexion with this subject, to compare the Greek alphabet with the synopsis of the fundamental sounds, which we gave in the twenty-third chapter, for which purpose we will place them side by side in the following table:

Α. . . . A.	Ι. . . . I.	Υε. . . . Y.
Ο. high. . O.	Ε. high. . E.	ΟΥ. . . . Ov.
Ο. deep. . Ω.	Ε. deep. . H.	
Ρ. . . . P.	Λ. . . . Λ.	Σ. . . . Σ.
Κ. . . . K.	Τ. . . . T.	Π. . . . Π.
Γ. . . . Γ.	Δ. . . . Δ.	Β. . . . B.
Ξ. . . . X.	Θ. . . . Θ.	Φ. . . . Φ.
Ζγ. . . . γ.*	Ν. . . . N.	Μ. . . . M.

From this table, which comprehends all the letters of the Greek alphabet, and all the sounds of the language, except the double consonants, ζ, ξ, and ψ, and the diphthongs, it appears that the Greek language has *all* the fundamental sounds, and *none but* the fundamental sounds; the only anomaly being, that in the labial vowel Ο the same distinction is not made as in the two other organs, between high and deep. The circumstance that the Ο is denoted by an υ, with prefixed ο, to show its approach to the lower series of fundamental vowels, seems to indicate, that originally even the Ο and Υε were not properly distinguished. With this solitary exception, the Greek alphabet coincides strictly with the fundamental sounds,

* In words such as ἀγγος, ἀγκος, and ἀγχος; read: ang-gos, ang-kos, ang-chos.

and we are not aware that there is any other language whose words are so purely a combination of what might be called the *distinct* and *unmodified* productions of the different organs of speech. Taking it, then, for granted, that the teacher will pay due deference to this purity of sound, we would advise him to proceed, without farther introduction, without even teaching the alphabet, in the above, or in any other order, in some such way as the following.

Let him write on the general lesson board, in English, a few simple sentences, distinguishing subject and attribute, and writing all the subordinate parts in smaller character, under the words which they serve to modify, define, or explain; for instance:

[The] maid wondered.	[A] hard battle was began (prepared).
[The] shores resounded mightily.	Teukros, dear man (head) shoot thus.
[The] daughters of the old man stood round.	Dances of maids were there.
Not any of the maids was absent.	The advice of Nestor. seemed best.*

* As marks, for the teacher in the first instance, we have introduced the following signs: [], to denote words omitted in Greek; (), for the literal translation of Greek terms which in English would not make any, or not the right sense; and ~, for a number of English words, expressed in Greek by one. These signs should not, at least not at first, come before the pupil's view.

The pupils having copied these sentences, the teacher may ask, taking the first sentence:

How many parts does this sentence consist of?

Pupils. Two; "the maid" and "wondered."

Teacher. How many words in the first part?

Pupils. Two; "the" and "maid."

Teacher. The first of these words, "the," is generally not expressed in Greek;* the second is expressed by **ἡ**.

The pupils having repeated the word, the teacher proceeds:

How many vowels do you hear in the word **ἡ**?

Pupils. Two; **η** and **ε**.

Teacher. The Greek **η** is denoted by two letters, placed together, **ο** and **υ**, thus: **ου**.

The pupil having written this, the teacher asks further:

Was the **ε** which I pronounced at the end of **ἡ** a high or a deep **ε**; did it sound more like the **ε** in *men*, or like that in *main*?†

If the pupils should hesitate, or give different answers, the teacher should repeat to them the word **ἡ**, until they are unanimous, that it is a deep **ε**, upon which he tells them that the deep **ε** is expressed in Greek by this sign, **η**.

The teacher next asks:

How many consonants are there between these two vowels, **η** and **ε**, in the word **ἡ**;

Pupils. One; an **α**.

Teacher. The Greek **α** is written thus, **α**.—Now put the letters for the three sounds together down on your slates.

The pupils write: **ουη**.

Teacher. Are there any consonants before the **η** or after the **ε**.

Pupils. There is a **α** before the **η**.

* The reader will recollect that the teacher has only to do, at present, with Homer's idiom, in which the article is of rare occurrence.

† Whenever the Greek words are printed in this type, the teacher should pronounce them to the pupils.

‡ The pupil is supposed to be acquainted with such distinctions from the course of English spelling. See Chapter XXIII.

Teacher. The Greek sign for κ is this, κ .—Now write the whole word.

The pupils write *κούρη*.

Teacher. How many vowels did you say there were in this word?

Pupils. Two: α and ϵ .

Teacher. Pronounce the word, placing the accent upon the first vowel, α .—Pronounce it now, with the accent placed upon the second vowel, ϵ .—Now see, whether you can tell me, upon which of the two I place it? He repeats $\kappa\alpha\kappa\epsilon\kappa\epsilon$.

Pupils. Upon the first.

Teacher. This we denote in Greek by a stroke upon the last of the two letters which together represent that vowel sound, thus, *κούρη*.

In a similar manner the teacher proceeds with the second part of the first sentence, and with the subsequent sentences, until a complete translation have been made of them all, as follows:

Κούρη
θηετο.

Δριμεία μάχη
ἐτύχθη.

Ὅχθαι
ἰαχον
μεγάλα.

Τεῦκρε, φίλη κεφαλῇ,
βάλλε
δυσως.

Κοῦραι
γέροντος
ἀμφέστησαν.

Χοροὶ
νυμφῶν
ἔσαν
ἐνθάδε.

* This also may be supposed to be known from the English spelling course, in which the accentuation of the words would be illustrated by whole series of words, analogous in their structure, but having the accent upon different syllables; the words "a rebel," and "to rebel," may serve as an example.

Ὅτι τις	Βουλὴ
νυμφάων	Νέστωρος
ἀπέην.	φαίνεται ἀρίστη.

In each of these sentences, it will be observed, there is at least one example of the feminine paradigm in *η*, of the first declension; and we now subjoin a number of other examples, selected, as well as the above, from different parts of the *Iliad* and *Odyssee*, with a view to give the pupil, within a moderate compass, an opportunity of collecting and arranging himself the different forms of it, which the Homeric idiom presents. At the same time, these sentences are intended to make the pupil acquainted with the leading forms of Greek construction, as far as the simple sentence is concerned; and they ought accordingly to be written in such a manner as to show clearly, by the place in which every word stands, the rank which it holds in the sentence. We have already in our course of English grammar given a specimen of this ocular demonstration of syntax; and in addition to the distinction there made between subject, attribute, and object, on one hand, and immediate and mediate object on the other, we shall have to distinguish in Greek three different characters of objects, according to the three different cases. To place the whole of the elements of the simple sentence, as existing in Greek, under one view, we combine them in the following table, which shows the position assigned to each.

Subject.

Attribute.

Immed. Genit. Obj. Immed. Dat. Obj. Immed. Accusat. Obj.
Med. Genit. Obj. Med. Dat. Obj. Med. Accusat. Obj.

In order more clearly to illustrate the manner in which the teacher ought to proceed, we select, from the sentences before us, one of each sort, arranging the parts of which they are composed, according to this diagram.

Subject. Attribute. Immediate Accusative Object.

	Συκαῖ	γλυκεραὶ	
		χείου	
—	—		καρπών.
—	—		—

Subject. Attribute. Immediate Genitive Object.

	ἄμῃς	γῆς	
	—	—	—
	—	—	—

\ [Ἐγώ]*
ὄντω ἐπέβην

Subject. Attribute. Immediate Dative Object.

	Δαναοὶ	
	εἰόκεισαν	
—	νεφέλησιν.	—
—	—	—

Subject. Attribute. Mediate Accusative Object.

	ἵπποι	
	στήτην	
—	—	—
—	—	ποτὶ πνοιήν.

Subject. Attribute. Mediate Genitive Object.

	Κέρα	ἐκκαδεκάδωρα	
		πεφύκει	
—	—	—	—
—	—	—	—
ἐκ κεφαλῆς	—	—	
αἰγὸς ἀγρίου.			

* In sentences like this, the subject which in Greek is generally implied in the verb, should be set down, but marked so as to show that it is in ordinary cases omitted.

Subject. Attribute. Mediate Dative Object.

	Kῦμα	
	ῶρτο	
—	—	—
—	ὑπὸ πνοιῇ λιγυρῇ.	—

Subject. Attribute. Double immediate Accusative Object.

	Πηγελόπεια	
	κύσσει	
—	—	{ παιδα
—	—	{ κεφαλῇν.

Subject. Attribute. Double immediate Genitive Object.

	ἥρωες	
	ξύνιον	
{ μεν	—	—
{ βουλέων	—	—

Subject. Attribute. Double immediate Dative Object.

	[Ἐγώ]	
	κατανέυσσμαι	
—	{ τοι	—
—	{ κεφαλῇ	—

Subject. Attribute. Immediate Accusative and immediate Dative Objects.

	[Σὺ]	
	δῶκας	
—	μοι	συνέας τεσσαράκοντα.
—	—	—

Subject. Attribute. Immediate Genitive and immediate
Dative Objects.

	Κλασία	
	πλείαι [είσιν]	
χαλκού	τοι	—
—	—	—

Subject. Attribute. Immediate and mediate Accusative
Objects.

	Ὀδυσσεύς	
	εἰλάσει	
—	—	κάρη
—	—	Μελανθῆος
—	—	πρὸς γῆν.

Subject. Attribute. Immediate Accusative and mediate
Genitive Objects.

	Ἀγαμέμνων	
	τάμνε	
—	—	τρίχας
ἐκ κεφαλέων	—	—
ἀρνῶν.		

Subject. Attribute. Immediate Accusative and mediate
Dative Objects.

	Ναυσικάα καὶ ἀμφίπολοι	
	εἶλοντο	
—	—	δείπνου
—	παρ' ὅχθησι	—
	ποταμοῖο.	

Subject. Attribute. Immediate Dative and mediate
Genitive Objects.

Εὐρός τε Νότος τε
ἐπῆϊξαν
— πόντῳ —
ἐκ νεφελῶν — —

Subject. Attribute. Mediate Accusative and Genitive
Objects.

Συκῇ
οὐκ [ἐστίν]
— — —
ἀνευ κομιδῆς — κατὰ κῆπον.

To economise our space, we give the remaining sentences which belong to the illustration of the first feminine declension in η without any farther distinction than that of perpendicular lines between the different parts.

Γῇ | κατερύκει | κρατερόν περ.
Πνοιῇ βορέας | ζώγρει | Σαρπηδόνα.
Πνοιαί παντοίων ἀνέμων | δονέουσιν | ἔρνος ἱλαίης.
[Ἐγώ] | ἐδάην | βουλήν πολίων ἀνδρῶν.
Ἑταῖροι Ὀδυσσεὺς | ἔχον | κεφαλὰς συῶν.
Ἄριστοι | μέλλουσι βουλεύειν | βουλὰς.
Νύμφη | παρετίθει | ἔδωδῆν.
Νεφέλη κυανέη | ἀμφεκάλυψεν | Ἑκτορα.
Νύμφαι | ὑφαίνουσι | φάρεα.
Κικόνες | ἐμάχοντο | μάχην.
[Ἐγώ] | εἰσῆλυθον | μάχας ἀνδρῶν.
Ἀχιλλεὺς | βάλεν | ὕχθην ὑψηλήν.
Θύελλαι | ἀνέλοντο | κούρας Πανδαρίου.
Ξείνος | οὐ κακός ἐστι | κνήμας.

- Ἄυτῇ κοῦράων | ἀμφήλυθε | μέ.
 [Ἐγὼ] | ἔγνω | ἵχνια κνημάτων—ἀπιόντος.
 Ἡμεῖς | κατελείπομεν | Πηνελόπειαν — νύμφην νέην.
 Ἐκτωρ | λάβε | κεφαλῇφιν.
 Ἀργεῖοι | ἔσχοντο | μάχης.
 Εὐνὴ | ἔσσεται | σοί.
 Κεφαλαὶ ὑμίων | εἰλύαται | νυκτί.
 Εὐναὶ | φίλαι [εἰσὶν] αἰεὶ | ἡμῖν.
 Ἀετὸς | πέτετο | πνοιῆς ἀνέμοιο.
 Μάχαι | φίλαι [ἦσαν] αἰεὶ | Ἀχιλλῇ.
 Ἀργεῖοι | οὐκ ἀντεφέροντο | μάχῃ.
 Ἀγαθαὶ φρένες | ἦσαν | Πηνελοπέιῃ, κούρῃ Ἰκαρίου.
 Ὀδυσσεὺς | ἔμελλε μίξεσθαι | κούρῃσιν.
 [Ἐγὼ] | κελεύσω | ἱππεῦσι — βουλῇ.
 Δόρυ μακρόν | λείπειτο | Μηριόνη—κλισίῃφιν.
 Εἰδῶλον | λιάσθη | ἐς πνοιᾶς ἀνέμων.
 [Ἐγὼ] | λέξομαι | εἰς εὐνὴν.
 Φεῦγες | ἐστρατώνοντο | παρ' ὄχθας Σαγγαρίοιο.
 Τυλθύβιος καὶ Εὐρυβάτης | ἰκέσθην | ἐπὶ κλισίας Μυρμιδόνων.
 Εὐμαιος καὶ Ὀδυσσεὺς | ἀφίκοντο | ἐπὶ κρήνην τυκτῆν.
 Νέστωρ | ἤρχε νέεσθαι | ἐκ βουλῆς.
 Ἀλκίνοος | ὤρνυτο | ἐξ εὐνῆς.
 Νέστωρ | ὤρνυτο | ἐξ εὐνῇφιν.
 Ἄνδρες | ὠρμῶντο | ἐκ κλισίης Ἀγαμέμνονος.
 Πᾶσαι κρήναι | νάουσιν | ἐξ ὠκεανοῖο.
 Γυναῖκες | ἦλθον | ἀπὸ κρήνης.
 Ἐγωγε | οὗτοι μαχήσομαι | εἵνεκα κούρης.
 Ἄρματα | κεῖτό | ἐν κλισίῃς.
 Τρῶες | ἀπέτισαν | σὺν σφῆσι κεφαλῇσιν.
 Ὠκέες ἵπποι | πετέσθην | ἅμα πνοιῇσιν.
 Ἀχιλλεὺς | πανέσκετο | ἐνὶ κλισίῃ.
 Κρήνη | νύει | ἐν ἄλλοι.

Κνήμη | πέσε | ἐν λέβητι.
 Σύες | νέμονται | ἐπὶ κρήνῃ.
 Εὐμαιος | ποίει | συσὶν | εὐνάς δυοκαίδεκα.
 [Υμεῖς] | ἐτιμήσασθε | εὐνῇ καὶ σίτῳ | ξείνον.
 Θρασυμήδης | ἀμφιέθηκε | Τυδείδῃ — κεφαλῇφι | κυνέην
 ταυρείην.
 Διώρης | βλήτο | χειρμαδίῳ | κνήμην δεξιτέρην.
 Ἀλέξανδρος | περιέθηκε | κνήμησι | κνημῖδας.
 [Τινές] | ἡγίνεον | νύμφας | ἀνὰ ἄστν.
 Ἀτρεΐδης | ἦγε | γέροντας | ἐς κλισίην.
 Μένος ἡμιονοῖν | φέρε | κούρην | προτὶ ἄστν.
 Ἀχιλλεύς | ἔθηκεν | ἔγχος | κατ' ὄχθης.
 Ἀγαμέμνων | ὤτρυνε | ἀνέρας | ἐκ κλισιέων.
 Μηριόνης | ἀνείλε | χάλκεον ἔγχος | κλισίῃθεν.
 Μυρμιδόνες | θέσαν | δῶρα | ἐν κλισίῃσιν.
 Ἀχιλλεύς | λίπε | δόρυ | ἐπ' ὄχθῃ.
 Ἀχαιοὶ | ἐπεσσεύοντο | ἀγορήνδε | ἐκ κλισιάων.

It seems hardly necessary to observe, that in translating these sentences with the pupils on the general lesson board, the teacher should give them every thing that does not naturally follow from what they have learned already, as a matter of fact, without adding either general rules or explanations; and that, on the other hand, whatever is mere repetition, or can be fairly deduced from preceding lessons, should be elicited by questions. After they have thus been jointly translated, the teacher should call upon every individual pupil to write them down on his slate, and afterwards in his book, in which the whole of the sentences belonging to one subject, as, for instance, the whole of the above, should be carefully preserved together, to be made use of for farther exercises. When the pupils have acquired a certain degree of facility in catching the sound of Greek words, and representing them by the appropriate written signs, the process of translating may be much facilitated by the teacher

giving out to each pupil a separate word to write upon his slate, and then transferring it, with whatever mistakes there may be in it, on the lesson-board, where the whole sentence is to undergo a joint-correction. This proceeding will, if the bitter spirit of emulation be strictly excluded, produce much animation and interest, and afford the teacher manifold opportunities of illustrating, as it were by the way, a variety of grammatical facts and rules. After a whole series of sentences has been thus translated, the teacher should call upon the pupils to mark down the words which occur most frequently, such as, in our example, *κεφαλῇ*, *βουλῇ*, *εὐνῇ*, &c. This being done, the teacher should select any of them, whichever he thinks most suitable for the purpose, on account of the number and variety of the forms in which it has been presented, and desire the pupils to make a table of these forms, for instance, of *κεφαλῇ*, in this manner:

Subjective Cases.

<i>Singular.</i>		<i>Plural.</i>
<i>κεφαλῇ.</i>	|	<i>κεφαλαί.</i>

Objective Cases.

<i>Singular.</i>			<i>Plural.</i>		
<i>Genitive.</i>	<i>Dative.</i>	<i>Accusative.</i>	<i>Genitive.</i>	<i>Dative.</i>	<i>Accusative.*</i>
<i>κεφαλῆς</i>	<i>κεφαλῇ</i>	<i>κεφαλὴν.</i>	<i>κεφαλῶν</i>	<i>κεφαλῇσιν</i>	<i>κεφαλὰς.</i>
<i>κεφαλῆφιν</i>	<i>κεφαλῶφιν</i>				

Looking at this table, the pupils will without difficulty be led to observe, that *κεφαλ* is invariably contained in each

* We use such terms for the sake of brevity, and because they will make our meaning better understood by those who are accustomed to the technicalities of grammar. But we should by no means recommend their use with pupils, except they have made already great proficiency in their studies; if so, we should not only not hesitate to use them, but think it proper to do so, as they are once introduced; for we think it equal pedantry to use, or to abstain from them, for the mere sake of system, and without reference to the circumstances of the case.

of these forms, and that the different terminations, *η, αι, ης, ηφιν, η, ηριν, ην, εων, ησιν, ας*, are appended to it. They should now be desired to draw out a general table of all the words that come under the above heads, and agree in their terminations with *κεφαλή*, irrespectively of the accent, and making allowance likewise for the variations of which any of the forms may admit; but which, by the examples given, will be proved to be accidental, and not essential differences. Thus, for instance, the pupil may hesitate for some time to place *κουράων* and *κνημάων* under one head with *κεφαλέων*, on account of the termination *εων* being changed into *αων*; but if he find that *νύμφη* has the two forms, *νυμφάων*, and *νυμφέων*, his doubts will be removed. The sentences which we have given would enable him to draw out the following table of the substantives under consideration:

Subjective Case.

Singular.

κούρη

. . .

κεφαλή

βουλή

συκῇ

γῇ

νεφέλη

πνοιή

. . .

νύμφη

μάχη

Plural.

κούραι

ὄχθαι

κεφαλαί

. . .

συκαῖ

. . .

. . .

πνοιαί

κλισιαί

νύμφαι

μάχαι

<i>Singular.</i>	<i>Plural.</i>
κνήμη	. .
αὐτή	. .
εὐνή	εὐναί
κρήνη	κρήναι

Objective Cases.

<i>Singular.</i>			<i>Plural.</i>		
<i>Genitive.</i>	<i>Dative.</i>	<i>Accusative.</i>	<i>Genitive.</i>	<i>Dative.</i>	<i>Accusative.</i>
κούρης	κούρῃ	κούρην	κουράων	κούρῃσιν	κούρας
ῥαχιδης	ῥαχιδῇ	ῥαχιδην	. . .	ῥαχιδσι	ῥαχας
{ κεφαλῆς	κεφαλῇ	κεφαλὴν	κεφαλίων	κεφαλῇσιν	κεφαλὰς
{ κεφαλῆφιν	κεφαλῇφι				
βουλῆς	βουλῇ	βουλὴν	βουλείων	. . .	βουλὰς
. . .	. . .	. . .	. . .	. . .	συνέτας
γῆς	. . .	γῆν	. . .	. . .	. . .
. . .	. . .	. . .	νεφελίων	νεφελῇσιν	. . .
. . .	πνοιῇ	πνοιήν	. . .	{ πνοιῇσιν	πνοιὰς
	{ κλισίῃφιν			{ πνοιῇς	
κλισίης	{ κλισίῃ	κλισίην	{ κλισιέων	{ κλισίῃς	κλισιάς
	{ κλισίῃ		{ κλισιάων	{ κλισίῃσιν	
κομιδῆς	. . .	. . .	. . .	. . .	. . .
ἐλαίης	. . .	. . .	. . .	. . .	. . .
. . .	. . .	νύμφην	{ νυμφέων	. . .	νύμφας
. . .	. . .	ἰδωδῆν	{ νυμφάων	. . .	. . .
μάχης	μάχῃ	μάχην	. . .	. . .	μάχας
. . .	. . .	κνήμην	κνημάων	κνήμῃσι	κνήμας
{ εὐνῆς	εὐνῇ	εὐνήν	. . .	. . .	εὐνάς
{ εὐνῆφιν	εὐνῇφι		. . .	. . .	. . .
κρήνης	κρήνῃ	κρήνην	. . .	. . .	. . .
. . .	. . .	κυνέην	. . .	. . .	. . .

The next step would be to let the pupil distinguish the words of this table according to their accents, into different classes, and fill up, by analogy, the cases of which no example has occurred. In this he would find no difficulty, and the declension, which to illustrate the above sentences were given, would then appear subdivided into four classes, as follows:

κούρη	ὄχθη	κεφαλή	συκῇ
ἐλαίη	νεφέλη	βουλή	γῇ
κνήμη	κλισίη	πνοιή	
κρήνη	νύμφη	κομιδή	
	μάχη	ἔδωδῇ	
	κυνέη	αὐτῇ	
		εὐνῇ	

It is certainly not necessary to enlarge upon the vast difference which it makes, as regards both the development of the mind and the knowledge of the language itself, whether the pupil be in this manner called upon to abstract his own rules, or whether he have merely a certain number of declensions to learn by rote, and to imitate mechanically; nor does it seem easy to call in question the applicability of the same plan of proceeding to all the matters generally comprehended under the head etymology, provided choice be made of appropriate sentences in the manner of which we have given a specimen. We wished to have added another illustration of it with reference to verbs, but want of room compels us to proceed at once to that most unintelligible part of grammar called syntax, and to shew, as concisely as possible, how it should be treated. The arrangement of the simple sentence, according to the outline which we have laid down with reference to Greek, forms the beginning of our course of syntax; the use of the different cases and prepositions being ascertained by the comparison of a number of cases which have at different times occurred, and ought for this purpose to be collected under one general view. The structure of the simple sentence being thoroughly understood, the teacher

ought to proceed to compound sentences; analysing them first into the simple sentences, of which they are composed, and afterwards exhibiting them, again "intuitively," in their connexion with each other. For illustration's sake we will add fable of Phædrus, dissected and recomposed upon this plan.

LUPUS ET GRUIS.

Os devoratum fauce quum hæreret Lupi,
 Magno dolore victus coepit singulos
 Inlicere pretio, ut illud extraherent malum.
 Tandem persuasa est jurejurando Gruis,
 Gulæque credens colli longitudinem,
 Periculosam fecit medicinam Lupo.
 Pro quo quum pactum flagitaret præmium:
 Ingrata es, inquit, ore quæ nostro caput
 Incolume abstuleris, et mercedem postules.

This narrative is composed of the following facts, expressed in simple sentences.

		Os devoratum	
		hærebat	
—	—	—	fauce
			Lupi.
—	—	—	—
		Lupus	
		victus erat	
—	—	—	magno dolore.
—	—	—	—
		Lupus	
		coepit inlicere	
—	—	singulos	pretio.
—	—	—	—
		[Vos]	
		extrahite	
—	—	istud malum.	—
—	—	—	—

		Gruis	
		persuasa est	
		tandem	
—	—	—	jurejurando.

		Gruis	
		credidit	
—	gulae	longitudinem	—
—	lupi	colli.	—

		Gruis	
		fecit	
—	lupo	medicinam periculosam.	—
—	—	—	—

		Gruis	
		flagitavit	
—	—	præmium pactum	—
—	—	—	pro medicinâ factâ.

		Lupus	
		inquit	
—	—	—	—
—	—	—	—

		[Tu, Gruis,]	
		abstulisti	
—	—	caput incolume	ore nostro.
—	—	—	—

		[Tu, Gruis,]	
		postulas	
—	—	mercedem.	—
—	—	—	—

		[Tu, Gruis,]	
		es ingrata.	
—	—	—	—
—	—	—	—

Having thus obtained a distinct view of each fact, taken by itself, the pupils should be led to connect them as follows:

A comparison of these sentences as they appear when taken singly, on one hand, and when connected, on the other, will afford the teacher an opportunity of illustrating all the different rules of syntax, as, for instance, in the example before us, the difference between the "preterimperfect" and the "preterperfect" tense of the "indicative mood," in the two sentences,

Os devoratum hærebat fauce lupi,
and

Gruis flagitavit præmium pactum;
and the conversion of both, by the intervention of "*quum*" into the "preterimperfect" of the "potential mood:"

Os devoratum quum hæreret
Gruis quum flagitaret.

Another transformation of the "preterperfect indicative" into the "preterperfect potential" occurs in the sentence,

Abstulisti caput incolume ore nostro.
which, connected with the "*es ingrata*" by "*quæ*" is converted into
abstuleris caput incolume ore nostro.

From this the pupil will abstract that a fact expressed in the "preterperfect indicative," when stated in a direct manner, may, by its connexion with other facts, undergo two different changes, and that consequently the direct expression of past facts,

flagitavit
abstulisti

has two corresponding expressions in the compound sentence

flagitaret } and { *flagitaverit*
auferres } { *abstuleris.*

On the other hand, he finds that the form, commonly called "preterimperfect potential," corresponds to two "indicative tenses;" so that, if in the compound sentence he meet with

flagitaret
auferres
hæreret,

he will have to inquire whether in the simple sentence he must put,

flagitabat } or } flagitavit
auferebas } or } abstulisti
hærebat, } or } hæsit.

It were easy, if we had room for such a discussion, to shew, by other examples of the same kind, how utterly incongruous the classifications and names of "moods and tenses" in our grammars, are with the nature of the ideas involved in them; and how, by a careful selection of sentences for the purpose of illustration, the pupil might be led to arrange them himself, agreeably to the genius of each language. We must not, however, trespass farther upon our limits, by entering upon so extensive a topic; nor is it possible for us to transcribe our views respecting the different stages of development through which the different languages mentioned have gone, and the order of succession in which, accordingly, the authors extant in each should be read. On this and a variety of other points connected with this subject, we can only refer our readers to our contemplated publications, of which one at least, a complete course of the Greek of Homer, is actually in progress!

CHAPTER XXXI.

Moral and Religious Education.—Close of the Work.

THE great merit of Pestalozzi, and the distinctive character of the plan of education proposed by him, was, that he endeavoured to substitute realities for the hollow sounds and empty forms, which, serviceable as they may be for fashioning the outer garment of human nature, are utterly unprofitable for the building up of the inner man. This important distinction, as it is most apparent, so likewise is it most unpalatable, when applied to the subject of religion; and hence we find that since the days of Christ, to whom the Pharisees of his time never forgave the simile of the whited sepulchres, down to the present hour, the nominal professors, who are always the loudest and most jealous advocates of religion, have sought out a pretext for sanctimoniously casting a taint upon the "character" or "doctrine" of every honest man that has stood up for the interests of substantial godliness. To an attack of this kind,—why should we conceal it,—Pestalozzi laid himself more open than others, by dwelling in his writings almost exclusively upon the feeling of religion, which is to be awakened in the child from the moment of birth by the influence of sanctified parental love, and which he considered, to use his own language, as the "element" of religion, upon which religious instruction, in the more limited sense of the word, was subsequently to be built, in the same manner as other branches of knowledge upon the previous development of their "elements." Thus an apparent neglect of positive

scriptural instruction, though in his establishment this also was carefully attended to, together with occasional strictures upon the absurdity of instilling religion by means of a creed, or a string of Scripture passages learned by rote, have been, here and elsewhere, made a handle of, for the purpose of throwing an uncharitable doubt upon Pestalozzi's views concerning revealed religion. We have already in former parts of this volume alluded to those misapprehensions and misrepresentations, and assigned the reasons for which we believe, that it requires an uncommon stretch of charity for a person brought up in the preeminently doctrinal atmosphere of this country, to do justice to the religious character of Pestalozzi; besides which, it is not our object to justify that character in the eyes of every-day saints. We, therefore, now leave the man in the hands of those who are able to understand that there are not only those who have less religion than they profess, but also those who profess less than they have; and proceed, without farther preface, to the matter in hand, by inserting a variety of extracts, from which our readers will derive the greatest benefit if, without asking any questions about what is set before them, they take it for granted that they come from a "clean" pen. Our author introduces the subject, as "the keystone of his whole plan," by the following question: "What bearing has religion upon those principles which I have laid down as the general basis for the development of the human mind?" The following is his answer:

"I ask myself: How does the idea of the Divine Being arise in my soul? Whence is it, that I believe in God, that I throw myself into His arms, that to love Him, to confide in Him, to thank and to obey Him, is infinite bliss to my heart?

"I find, that the feelings of love, confidence, and gratitude, and the habit of obedience, require to be developed in man, before they can be directed to the Divine Being as their object. I must love men, confide in men, be grateful to men, and obey men, before I can cherish the same feelings, and practice the same virtues towards God, 'for he that loveth not his brother, whom he hath seen, how can he love God, whom he hath not seen?'

"The question then is: 'What are the means of awakening in the child love, confidence, gratitude, and obedience, with regard to man?' I answer:

'All these virtues originate in the relationship established between the infant and its mother.'

"The mother is impelled, as it were, by instinct, to nurse and foster her child, to afford him shelter and happiness. She satisfies all his wants, she removes from him all that is unpleasant to him, she assists his helplessness—the child is provided for and made happy; *the seed of love begins to be unfolded.*

"A new object strikes his senses; he is astonished, afraid, he cries; the mother presses him more fondly to her bosom, she plays with him, amuses him—he ceases from crying—but the tears remain in his eyes. The object reappears, the mother throws round him again her protecting arms, and comforts him with a smile—he cries no longer, his bright unclouded little eye answers the mother's smile: *the seed of confidence has taken root in his soul.*

"The mother runs to his cradle whenever he has any want; she is there in the hour of hunger, at her breast his cravings are hushed—when he hears her step approaching, his whinings cease; when he sees her, he stretches out his little arms; while hanging at her bosom, his eye beams with satisfaction; *mother and satisfaction* are to him but one idea—it is that of *gratitude.*

"The germs of love, confidence, and gratitude, grow rapidly. His ear listens to the mother's footstep; his eye follows her shadow with a smile; he loves whoever resembles her; a being that resembles his mother is in his idea a kind being. He beholds the form of his mother, the human form, with delight—whoever is dear to his mother, is dear to him—he embraces whomever she embraces, kisses whomever she kisses. *The love of mankind, brotherly love springs up in his heart.*

"The practice of obedience, which is at first opposed by the tendencies of the child's sensual nature, is more especially the result of education, and not of instinct. Nevertheless, its first development is in a manner instinctive. Love is preceded by want, gratitude by satisfaction, confidence by apprehension, and obedience by violent desire. The child cries impatiently before he waits patiently. Patience goes before obedience, of which it is the basis. The first steps in the acquirement of that virtue are merely passive; they are founded upon the feeling of unbending necessity. But this feeling too develops itself on the mother's lap; he must wait till she takes him up, till she gives him the breast. Active obedience is developed much later, and still later the consciousness that it is good for him to obey his mother

"Nature opposes the storming child by unbending necessity. The child knocks against wood and stone; nature remains unbending, and the child ceases to knock against wood and stone. The mother also begins to oppose in the same manner the turbulence of his desires. He raves and kicks—she remains inexorable—he ceases to cry, and accustoms himself to subject his will to hers—and *the seeds of patience and obedience are unfolding themselves in his heart.*

"By the united action of love, gratitude, confidence, and obedience, the

Gruis flagitaret	quum	Lupus inquit:
— — præmium pactum —	<div> <div>Tu, Gruis,</div> <div> <div>abstuleris</div> <div>caput iaculum ore nostro</div> <div>et</div> <div>postales</div> <div>mercedem</div> </div> </div>	
— — pro quo [medicinâ factâ]		
		es ingrata

A comparison of these sentences as they appear when taken singly, on one hand, and when connected, on the other, will afford the teacher an opportunity of illustrating all the different rules of syntax, as, for instance, in the example before us, the difference between the "preterimperfect" and the "preterperfect" tense of the "indicative mood," in the two sentences,

Os devoratum *hærebat* fauce lupi,
and

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flagitaret
aufferes
hæreret,

he will have to inquire whether in the simple sentence he must put,

$\left. \begin{array}{l} \text{flagitabat} \\ \text{auferebas} \\ \text{hærebat,} \end{array} \right\} \text{or } \left\{ \begin{array}{l} \text{flagitavit} \\ \text{abstulisti} \\ \text{hæsit.} \end{array} \right.$

It were easy, if we had room for such a discussion, to shew, by other examples of the same kind, how utterly incongruous the classifications and names of "moods and tenses" in our grammars, are with the nature of the ideas involved in them; and how, by a careful selection of sentences for the purpose of illustration, the pupil might be led to arrange them himself, agreeably to the genius of each language. We must not, however, trespass farther upon our limits, by entering upon so extensive a topic; nor is it possible for us to transcribe our views respecting the different stages of development through which the different languages mentioned have gone, and the order of succession in which, accordingly, the authors extant in each should be read. On this and a variety of other points connected with this subject, we can only refer our readers to our contemplated publications, of which one at least, a complete course of the Greek of Homer, is actually in progress.

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"By the united action of love, gratitude, confidence, and obedience, the

conscience is awakened,—the first shade of a feeling, that it is wrong to rave against a loving mother; that the mother is not in the world for his sake only;—this leads to the feeling that other beings and things, nay, he himself, are not made for his sake only,—and here are the first germs of *duty*, of *right*.

“These are the fundamental features of moral development, arising from the relation in which nature has placed the child to his mother; and in them is the root of that disposition of soul by which man is drawn to his Maker; that is to say, our feelings of union with God through faith spring essentially from the same root as those from which the infant’s attachment to his mother springs. The development of these feelings, likewise, follows with reference to both the same progress.”

It may not be amiss here, to remind our readers, that all this is true only in the supposition that the mother’s heart is itself in “union with God through faith;” that her love for the child is not the affection of flesh and blood for flesh and blood, but the affection of one member of Christ for another, the sympathy of the life of Christ in the mother with the life of Christ in the child; for be it remembered, that the affection of “the natural man” does not, any more than his wrath, work the righteousness of God. With this memento we return to our extracts.

“The infant *trusts* and *obeys*, but he is unconscious of the grounds of his confidence and of his obedience; and as he becomes gradually conscious of them, this power over him diminishes in the same proportion. He begins to feel himself, he leaves the hand of his mother, and a voice whispers in his bosom, ‘I have no more need of my mother.’ The mother reads in his eyes the rising thought, she presses her darling more affectionately than ever to her bosom, and she says, with a voice such as he never heard before, ‘Oh, my child, there is a God of whom thou wilt have need, though thou shouldst have no more need of me,—a God who will protect thee when I am no longer able to do it,—a God who will prepare for thee joy and happiness, when I have no more to give.’ Then rises in the child’s bosom an unspeakable something, a holy feeling, an impulse of faith, that raises him above himself. He rejoices to hear the name of his God from the lips of his mother, the feelings of love, gratitude, and confidence, which the sympathies of her bosom kindled in him, are enlarged; they now embrace his Heavenly Father, as they first did his earthly parents. The sphere of obedience is extended; the child now fears the eye of God, as it did before that of the mother; and as for the mother’s sake heretofore, so now he does right for the sake of God

“The first awakening of love, gratitude, confidence, and obedience, is

the mere result of instinctive sympathies between mother and child,—the farther development of these feelings requires the highest art of education; it must be pursued with a constant reference to their origin,—for great and sudden is the danger of their being suffocated. The child licks the maternal name and the name of God,—he is all love, all confidence, all gratitude, all obedience,—but the grounds on which these feelings rested, vanishes. He stands no longer in need of his mother; the world, the smiling world, calls out to him with all the charm of novelty and sensual allurements: ‘*Now thou art mine.*’

“Mother! the world now begins to sever thy child from thy heart, and if at that moment the hand of love do not interfere to make this dazzling world of sense minister to feelings of a higher order, it is over,—thy child, O mother, is torn from thy heart; the world will supersede thee; the world will be his God,—selfishness, sensual gratification, will be his idol!

“O mother! he has lost thee, he has lost God, he has lost himself,—the flame of love has died away, the light of conscience is extinct; and he is bewildered in the corruption of restless desire for sensual enjoyment.

“This is the moment of danger, O man! when the feelings of infancy vanish, and a world, independent of the mother, uncloses its charms,—when the ground, from which the nobler feelings of the human bosom spring, begins to give way under him; when the mother ceases to be his all; when the novelty of the world kindles in him a new confidence of life, and suffocates in his heart that confidence with which he clung to his mother, and to the thought of an unseen and unknown God; even as the gross texture of the deeply entangled roots of noxious weeds suffocates the delicate fibres of nobler plants. This is the critical moment, O man, when all the art and power of education is required to preserve gratitude, love, confidence, and obedience, in the heart of thy child.

“Those feelings are of divine origin, and on their preservation, therefore, depends the measure of moral power of which the child shall afterwards be possessed. Every means should be used to supply new fuel to those feelings, when the physical incentives cease, which called them forth in infancy; and the charms of the world should be presented to the child in constant subordination to those feelings.

“Here you must not trust to nature; you must do all that is in your power to supply the place of her henceforth blind guidance, by the wisdom of experience. For the world which the child now enters, is not such as it went forth from the hands of the Creator; it is a world full of deadly poison, both as regards his sensual enjoyments and the feelings of his moral nature; a world full of warfare, selfishness, inconsistency, violence, conceit, falsehood, and deception.

“It is not God’s creation, but *this* world that allures thy child to the whirlpool in whose deep abyss wrath and spiritual death have their abode. It is

not the work of God which this world presents to the eye of the child, but the work of its own artificial and unnatural corruption

"This world is so deeply immersed in its unnatural corruption, that it is incapable of apprehending or using the means appointed for the fostering of purer and noble feelings; like a heartless stepmother, it abandons the child at the most critical moment, with a carelessness which, in ninety-nine cases out of a hundred, leads to the decided failure of the ultimate object of all education. The world is allowed to operate with all its might upon the child's senses, without any thing to counterbalance its effect, and thus it comes to pass, that the vivid impression made upon his sensual nature overpowers the first tender germ of moral feeling. From the moment when this is done, a boundless career of selfishness and depravation lies open before him. On the contrary, the narrow path of intellectual development, and the strait gate of moral rectitude, are completely blocked up;—the whole nature runs on in a false direction, in which reason is separated from love, intellectual cultivation from faith in God, whilst selfishness becomes the almost exclusive motive of exertion; the inevitable consequence of which must be ruin and destruction."

All this is very excellent, as far as it goes, and deserves to be laid to heart by every parent, who looks upon children as "an heritage of the Lord," to be received and trained up, not in the name of flesh and blood, but in the name of Christ. Weak, indeed, must be the faith of that mother who knows not, that by one beam of heaven's love in her eye, she may plant more religion in the heart of her suckling, than all the doctors of divinity shall ever be able to instil, or all the scoffers to take away. Here is the fellowship of faith, here the reality, of which the much contested ordinance of infant baptism is the sign and seal; here the blessing to a child, to be born of Christian parents, who being themselves "dead unto sin, but alive unto God," give up their child also as a child of sin, to receive it back again as a child of God, through the life of Christ, which is in him. If this were understood, if it were felt, then should we no longer see mothers consigning to hirelings that charge which they, by a solemn vow, have taken upon themselves, as if the gift of love which God has ordained in the mother's eye, could be "purchased with money;" nor should we any longer witness that carnal impatience of "serious" mothers to run into the ears, and elicit from the

mouths of their babes, before they are quite possessed of the gift of speech, a few scraps of what we cannot consent to call by a more dignified name than that of *gospel talk*. Does not this unhallowed fidget about the external sound of Christ's name clearly evince that the mother has no knowledge of, or no faith in, that testimony of Christ in the heart of the child, which is in itself power and life, of which every outward profession of Christ's name is merely the echo, without which it is nothing else but taking the name of the Lord in vain. What has the repetition by rote of the creed, the catechism, or even the Lord's prayer, what the parsing of gospel doctrines, to do with the kingdom of heaven? Have ye not faith, that if "out of the bellies" of your children "shall flow rivers of living water," the accidentals of religion also will be added unto them? Why, then, should your attention be swallowed up in the effort to bring about in your children those symptoms of religion, which it is in the power of man to produce, and which are serviceable for a form of godliness in the sight of man; instead of ministering, with the humility and the reverence of a servant to that substance of religion, that new creature, that divine nature in the child, which flows from God, and brings back unto God the sanctified vessel of his glory? God has given you a sure promise, that He will cause the child to glorify Him in his heart; but ye, in the weakness of your faith, in the carnal anxiety of your religion, cause the child to mock Him with his lips. The law-bound church of Jerusalem was convicted of killing the prophets, and the word-multiplying churches of Gentile Christendom will, in the latter days, be found guilty of having stifled the Son of God in the hearts of their children. "They know not, neither will they understand; they walk on in darkness."

It is abominable in the sight of God, and grievous in the sight of every man who sees with the eye of God, that under the pretence of religion the purpose of religion should be thus effectually foiled; and earnestly, therefore, because on God's behalf, would we entreat every mother, whose consci-

ence is not seared by the hot iron of the cant and false gospel-zeal of our days, to return to the simplicity of Christ, and without taking thought for the religious appearance which her child may wear, to bestow all her tenderest care upon the fostering of those holy feelings, of love and faith, which Christ puts forth in the heart of the babe, and which require only to be laid hold of and cultivated, in order to ensure their growth and their ultimate victory over the carnal mind, which is enmity against God. Those feelings are the embryo of the new creature in the child; they are the foundation which Christ himself lays, and therefore the only safe foundation for the parent to build on; when brought to maturity, their existence is the witness which the spirit beareth with our spirit that we are the children of God, which is the only safe ground of assurance with God, the only evidence which no scepticism can shake. If, therefore, O mother, you put any value upon the inheritance which your child has in Christ, if you desire that he should stand faithful in the midst of a blaspheming world, in which love is evermore waxing cold, and that he should rest upon God in the full assurance of the hope which is set before him, then raise yourself in faith above the anxieties of a religion which standeth in the wisdom of men, cast your cares upon the Lord, and follow this maxim: "Let the child become conscious that Christ is within him, and he will feel, that it is to this divine nature that the revelation of Christ is addressed, and that it is by self-submission to this divine nature only, that he can become a follower of Christ."

Do we then set aside, or slight scriptural instruction? God forbid! Those who hate the power of godliness and love its form, would be glad indeed, if we afforded them such an opportunity of blunting the edge of our just rebuke. But we say unto them, "These things ought ye to have done, and not to leave the other undone." You ought, indeed, to have set the record of Christ before your children, but you ought not to have omitted to minister to His spirit in their hearts, in order that the outward testimony, which of itself is a dead

letter, might be made alive by Him, and a living witness to the truth of God might thus be established within them. This alone can constitute spiritual instruction in the matters set forth in the scriptures, and lead to that wisdom whose fruit is sown in peace. This, then, is the spirit of that method of religious education which we would advocate; for, as we have before observed, the spirit of Pestalozzi's method is no other than the spirit of the gospel, applied to the work of education in all its details.

We have been thus explicit on this point, because with reference to this, the most important of all subjects, we are more than with reference to any other, apprehensive, lest by sketching out for the teacher the details of the plan which he ought to follow, we should in the end be found ministering to that very spirit of routine and system which we are anxious to see excluded from the holy precincts of education. Besides, religious instruction is, in the nature of things, less than that of any other branch of knowledge, to be defined within the framework of a plan; it ought to be carried on in the faith, on the part of the teacher, that it will be given unto him, what he shall speak; and not only that, but also that it will be given unto his pupils how to understand; for it is in no other sense than this, that "faith cometh by hearing." The teacher ought, therefore, carefully to beware lest he fall into the vain imagination that by his teaching, religion is to be brought about in the child's mind, or instilled into it. All that he can do, is to communicate to the child the dealings and purposes of God, as set forth in the scriptures; and by comparing scripture with scripture, and adducing illustrations from other quarters, where it is appropriate, he may facilitate the understanding, as far as the matter of fact is concerned, of the sacred records, which their antiquity and their oriental idiom renders in many parts obscure and to the child totally unintelligible. In doing this he will, of course, give to the subject all the weight which the fact of his own belief can impart to it in the eyes of his pupil; and the more, therefore, he is linked together with the child by the fellowship of love

and confidence, the more efficient will that testimony be; still he ought scrupulously to abstain from appealing to it, as a ground of belief on the part of the child; nay, he ought silently to counteract in the child the tendency which he naturally has to lean upon such authority; and on no account should he imitate the presumption so prevalent in the religious instruction of the present day, of putting himself between God and the child, by summing up to the latter the substance of what he is to believe, and making use of all the artillery of scriptural and unscriptural threats, for the purpose of enforcing acquiescence in it. This presumption is the cause of the overwhelming increase of infidelity, open or disguised, especially among the children of the professedly "religious" public, and has brought about a state of things in which the children of unconverted "sinners of the Gentiles" shall enter into the kingdom of heaven before those of the so called "spiritual Israel." For, if by any mercy of Providence the former be led to consider the subject, at some period or other of their lives, they may yet embrace the work of Christ as the free gift of God's love, and if so, they will serve in newness of life, and not in the oldness of the letter; whereas the latter, to whom the forms and sounds of the gospel cleave, as a matter of habit, are apt to look upon themselves as those in whom the one thing needful has been accomplished; and, in their delusion and blindness to the realities of religion, to mistake a garment made after the fashion of the new man, for the new man himself.

To avert this danger, as far as in him lies, the teacher ought to set the facts of revelation before the child, simply and unaffectedly; being well assured that if there be not in the child a disposition to receive them freely, and apply them spiritually, his urging them cannot render them more palatable or more effectual; and that if there be such a disposition, they will be received the more readily, and applied the more fully, the more freely they are presented. But while on one hand we cannot too strongly insist on the necessity of the teacher's, even though he be a parent, abstaining from all forcible inter-

ference with, or intrusion upon, the heart and mind of the child in religious matters; we feel it our duty on the other hand, to caution our readers against the bondage of the cant phrase which has gone abroad, of putting the scriptures into the hands of the child "without note or comment." If by this phrase be meant, that no abstract of faith, no compression *in nuce* of the truth of God, is to be given to the child, as a bias under the influence of which he is, or shall be, made unable to read scripture, in any other than the prescribed sense, we have too clearly expressed, here and elsewhere, our assent to the principle of non-interference in matters of belief, to leave any doubt of the course which we would recommend: but if on the contrary, we are told, that to be faithful to the principle of giving the scriptures without note or comment, we are merely to put the book into children's hands, and see that they spell and construe it correctly, leaving them to guess what may be the meaning of those numerous and considerable portions which, from the peculiarity of language, or the allusion to facts unknown to the child, are perfectly unintelligible, or convey a different meaning from that which is intended; if, we say, such a course be proposed, under the name of scriptural instruction "without note or comment," we can only say, that it is a mockery of scripture, which cannot be too strongly reprobated, and for which charity can only account by the supposition of gross ignorance of the contents of scripture on the part of those who advocate it.

This leads us to another question, connected with the practical part of our subject: viz. how far the letter of scripture is to be strictly adhered to in the first course of scriptural instruction? We say advisedly in the *first* course, because, after the child has attained a certain knowledge of language, and, likewise, has been made acquainted with the principal facts of revelation, we believe it to be, without contradiction, highly improper to substitute any paraphrase,—whether it be in the form of abridgment or enlargement, matters not,—for the text of scripture; which principle, of course, applies to the authorised version only so far as it is faithful to the origi-

nal, and allows for all necessary corrections and improvements of the translation. But whilst we take this point for granted as regards the more advanced periods of instruction, we are by no means prepared to apply the same decision to its earliest stage, during which we know, from experience, how great a drawback it is upon the attention and interest of the child, that he should have the narrative presented at first in terms which, both individually and in their connexion with each other, are often unintelligible to him, leaving him to get at the fact itself only through a variety of tedious explanations, after which again the less intelligible form is resorted to as the standing type. On the other hand, we are well aware, as every student of scripture must be, how full of meaning every word of the sacred record is, and how often a mass of light may be thrown upon a subject from a passage, which at first sight appears almost insignificant, and would, by our paraphrases, be treated with little ceremony. Still, considering that the less obvious information to be drawn from the sacred text, is sure to escape the child, even though the text itself were set before him, during the first course, when all the facts are quite new to him, we believe it to be more advisable, in that *first* course, and in that only, to make use of a "child's bible," or a selection of narratives, which together would constitute a well connected course of scripture history, embodying such doctrinal portions as are within the compass of the child's comprehension. Among the numerous scripture extracts that have been compiled, we are not aware that there is one which at all answers to our idea of what such a book ought to be; and we will, therefore, add a few hints for those teachers who may be inclined to adopt our advice; which they may do the more easily, as in this first course the children should not read themselves, but be read to, so that they may be able to concentrate their whole attention upon the subject.

In preparing extracts for this purpose, the teacher should lay it down as his first rule, not to depart unnecessarily from the text; and when he departs from it, to let his alteration be

confined to the substitution of a more intelligible term or construction for one which would be obscure to the child; but never to let it amount to a gloss, that is to say, to let his version of the text be at the same time a commentary upon it. He ought to be strictly a translator from the idiom of the Bible into the idiom of the child.

In the selection of the portions of scripture to be inserted in the course, the teacher should be slow to omit any which can be brought within reach of the child's mind, and take particular care that the chain of God's dealings should in no part of it be interrupted. In order to establish the connexion between different portions, it will occasionally be necessary to add a few words by way of introduction, and reference to a former narrative. Such additions should be as short as possible, and contain nothing but what is clearly warranted by other parts of scripture. On the other hand, passages may occur in the portions selected, which it will be necessary or advisable to omit, either because they are inappropriate at the age for which the course is intended, or because they contain information not immediately connected with the subject for which the extract is selected. To the omission of such, there can of course be no objection; and on the same ground the transposition of passages into a different order should, whenever clearness requires it, be resorted to.

Lastly, the teacher ought to divide his extracts into as small portions as the nature of the subject will permit, in order to give the child an opportunity of making himself perfectly familiar with each individual event. By way of illustration, we will subjoin the first six sections of the life of Abraham, and a portion of the life of Christ, which latter will, at the same time, show the manner in which the four Gospels ought to be embodied with one another in this course.

1. *How Abram was called out from his Kindred,
and what Promise God made to him.**

And it came to pass, while they dwelt in Haran,† Abram being seventy and five years old, that the Lord said unto Abram: "Get thee out of thy country, and from thy kindred, and from thy father's house, unto a land that I will shew thee: and I will make of thee a great nation, and I will bless thee, and make thy name great, and thou shalt be a blessing: and I will bless them that bless thee, and curse him that curseth thee: and in thee shall all families of the earth be blessed."

2. *How Abram departed from Haran and came into
the Land of Canaan.‡*

After this Abram departed, as the Lord had spoken unto him. And he took Sarai his wife, and Lot his brother's son, and all their substance that they had gathered, and all the people that they had gotten in Haran; and they went forth to go into the land of Canaan; and into the land of Canaan they came.

And there were dwelling in the land at that time the Hittites, and the Amorites, and the Girgashites, and the Jebusites, and others of the sons of Canaan.

And Abram passed through the land, unto the plain of Moreh.§

3. *How God appeared unto Abram in the Plain of Moreh,
and what God promised him there.||*

And in the plain of Moreh the Lord appeared unto Abram and said: "Unto thy seed will I give this land." And

* Gen. xii. 1-3, with part of verse 4, and part of xi. 31.

† It is supposed that the migration of Terah and his family from Ur to Haran formed the subject of the preceding section.

‡ Gen. xii. 4-6, comp. with xv. 19-21.

§ Of course, the teacher will follow the progress of Abram's journeys on a map, prepared for the purpose.

|| Gen. xii. 7-9.

Abram builded there an altar unto the Lord, who appeared unto him.

And after this, Abram removed from thence unto a mountain on the east of Bethel, and pitched his tent, having Bethel on the west, and Hai on the east; and there also he builded an altar unto the Lord, and called on the name of the Lord.

And from thence also Abram departed and journeyed, going on still toward the south country.

*4. How Abram journeyed into Egypt, and returned again into the Land of Canaan.**

And there was a famine in the land of Canaan; and Abram went down into Egypt to sojourn there; for the famine was grievous in the land. And afterwards Abram came up again out of Egypt, he, and his wife, and all that he had, and Lot with him, into the south country.

And he went on journeying from the south country to Bethel, unto the place where his tent had been before, between Bethel and Hai, unto the place of the altar, which he had made there before. And there Abram called on the name of the Lord.

5. How Abram and Lot separated themselves, the one from the other.†

Now Abram was very rich in cattle, in silver, and in gold; and Lot also, which went with Abram, had flocks and herds and tents. And the land was not able to bear them, that they might dwell together; for their substance was great, so that they could not dwell together. And there was a strife between the herdmen of Abram's cattle, and the herdmen of Lot's cattle.

And Abram said unto Lot: "Let there be no strife, I

* Gen. xii. 10, and xiii. 1, 3, and 4, omitting the transactions Gen. xii. 11-20.

† Gen. xiii. 2, 5-12.

pray thee, between me and thee, and between my herdmen and thy herdmen, for we be brethren. Is not the whole land before thee? Separate thyself, I pray thee, from me: if thou wilt take the left hand, then I will go to the right; or if thou depart to the right hand, then I will go to the left."

And Lot lifted up his eyes and beheld all the plain of Jordan, that it was well watered every where, even as the garden of the Lord. And Lot chose him all the plain of Jordan; and Lot journeyed east: and they separated themselves, the one from the other. Abram dwelled in the land of Canaan, and Lot dwelled in the cities of the plain, and pitched his tent towards Sodom.

6. *How God made to Abram a still greater Promise.**

And the Lord said unto Abram, after that Lot was separated from him: "Lift up now thine eyes, and look from the place where thou art, northward, and southward, and eastward, and westward; for all the land which thou seest, to thee will I give it and to thy seed for ever. And I will make thy seed as the dust of the earth: so that if a man can number the dust of the earth, thy seed also shall be numbered. Arise, go through the land in the length of it and in the breadth of it; for I will give it unto thee."

The following portions are selected from the life of Christ, beginning immediately after the death of John the Baptist.

1. *How the Apostles returned unto Jesus, and whither they went together.†*

Now, when the disciples of John heard, how he had been beheaded in the prison, they came and took up his corpse,

* Gen. xiii. 14-17.

† Matth. xiv. 12, 13. Mark, vi. 29-32, and part of 34. Luke, ix. 10. John, vi. 1 and 3.

and laid it in a tomb, and went and told Jesus. And the apostles also gathered themselves together unto Jesus, and told him all things, both what they had done, and what they had taught. And he said unto them: "Come ye yourselves apart into a desert place, and rest awhile." For there were many coming and going, and they had no leisure, so much as to eat.

And Jesus took them and departed thence privately by ship, over the sea of Galilee, into a desert place, belonging to a city called Bethsaida. And when Jesus came out of the ship, he went up into a mountain, and there he sat with his disciples.

2. *How the Multitudes followed Jesus, and how he received them.**

But the people had seen Jesus and his disciples departing, and many had recognised him; and when his departure became known, they followed him on foot, a great multitude out of all the cities, because they had seen the miracles which he did on them that were diseased. And they overtook him and gathered themselves unto him.

When Jesus then lifted up his eyes, and saw the great company come unto him, he saith unto Philip: "Whence shall we buy bread, that these may eat?" And this he said to prove him: for he himself knew what he would do. Philip answered him: "Two hundred pennyworth of bread is not sufficient for them, that every one of them may take a little."

And Jesus received the multitude, for he was moved with compassion toward them, because they were as sheep not having a shepherd; and he began to teach them many things of the kingdom of God, and healed them that had need of healing.

* Matth. xiv. 13 and 14. Mark, vi. 33 and 34. Luke, ix. 11. - John, vi. 2, 5-7.

3. *How Jesus fed five thousand Men, with five barley Loaves and two Fishes.**

Now, when the day was far spent, the twelve came unto him and said: "This is a desert place, and now the time is far passed; send the multitude away, that they may go into the villages and country round about, and lodge, and buy themselves victuals, for they have nothing to eat."

Jesus answered and said unto them: "They need not depart, give ye them to eat."

And they said unto him: "Shall we go and buy two hundred pennyworth of bread, and give to eat to all this people?"

Jesus said unto them: "How many loaves have ye? go and see."

And when they knew, Andrew, Simon Peter's brother, said unto him: "There is a lad here, which hath five barley loaves and two small fishes: but what are they among so many?"

Jesus said: "Bring them hither to me, and make the people all sit down by fifties in a company."

And the multitude sat down in ranks by hundreds and by fifties upon the green grass, for there was much grass in the place. And they were in number about five thousand men, beside women and children.

And Jesus took the five loaves and the two fishes, and looking up to heaven, gave thanks and blessed them, and brake the loaves and gave them to his disciples, to set before the multitude; and likewise of the two fishes distributed he among them all as much as they would. And they did eat, and were all filled.

And Jesus said unto his disciples: "Gather up the fragments that remain, that nothing be lost." Therefore they gathered them together, and filled twelve baskets with the fragments of the five barley loaves, and of the fishes, which remained over and above unto them that had eaten.

* Matth. xiv. 15-21. Mark, vi. 35-44. Luke, ix. 12-17. John, vi. 8-13.

4. *How Jesus sent away the Multitude.**

Now those men, when they had seen the miracle which Jesus did, said: "This is of a truth that prophet that should come into the world."

Jesus therefore, knowing that they meant to come and take him away, in order to make him king, straightway enjoined his disciples to get into a ship and to go before him to the other side unto Bethsaida, while he sent the multitudes away. And when he had sent them away, he departed again into a mountain to pray; and late in the evening he was there alone.

5. *How Jesus walked to his Disciples over the Sea.†*

And his disciples, about nightfall, went down to the sea, and entered into a ship, and went over the sea toward Capernaum. And it was now dark, and Jesus was not come to them. And the sea arose, by reason of a great wind that blew; and the ship being in the middle of the sea, was tossed with waves, for the wind was contrary unto them.

And Jesus, being alone on the land, saw them toiling in rowing; and about the fourth watch of the night he cometh unto them, walking upon the sea, and would have passed by them. So when they had rowed about five and twenty or thirty furlongs, they see Jesus walking on the sea and drawing nigh unto the ship. And they supposed it was a spirit, and cried out for fear, for they all saw him and were troubled.

But straightway Jesus spake unto them, saying: "Be of good cheer; it is I, be not afraid."

And they were sore amazed in themselves beyond measure, and wondered; for they had not yet come to understanding by the loaves, for their heart was hardened.

But Peter answered Jesus, and said: "Lord, if it be thou, bid me come unto thee on the water."

And Jesus said: "Come."

* Matth. xiv. 22-23. Mark, vi. 45-46. John, vi. 14-15.

† Matth. xiv. 24-33. Mark, vi. 47-52. John, vi. 16-21.

And Peter having come down out of the ship, walked on the water, to go to Jesus. But when he saw the wind boisterous, he was afraid, and beginning to sink, he cried, saying, "Lord, save me."

And immediately Jesus stretched forth his hand, and caught him, and said unto him: "O thou of little faith, wherefore didst thou doubt?"

And they went up into the ship, and they willingly received Jesus, and the wind ceased. Then they that were in the ship, came and worshipped him, saying: "Of a truth, thou art the son of God."

And immediately the ship was at the land of Gennesaret, whither they went, and they drew to the shore.

6. *How the People of Gennesaret received Jesus, and how many were healed by him.**

And as soon as they were come out of the ship, the people of that place, having recognized him, ran through all the country round about, and began to carry about in beds those that were sick, where they heard he was. And whithersoever he entered into villages, or cities, or country, they laid the sick in the streets, and besought him that they might touch, if it were but the border of his garment; and as many as touched him, were made whole.

THE above specimens will suffice to illustrate the hints which we have thrown out concerning the use to be made of the text of Scripture in the first course. After the leading facts of revelation have in this manner been presented, and the child has been led to re-narrate them in his own language, either orally or by writing, he will be sufficiently acquainted with the general outline of Scripture, to be able to enter into a more extensive course, which should branch out in two different directions, leading the pupil on one hand to collect the information scattered throughout the sacred record, on all

* Matth. xiv. 35-36. Mark, vi. 54-56.

matters of personal religion, and on the other hand to make God's purposes with mankind universally, past, present, and future, the object of his study.

Throughout all this there is one point which the teacher ought, above all, steadily to keep in view, viz. the characteristic difference between God's revelations to man, and the communications that take place between man and man, which is, that man speaks in words, but God speaks in facts. This ought never to be lost sight of, that God's instruction is an instruction of life, not one of sound or letter: for even when to the apprehension of sense he has revealed himself by sound or by letter, he has superadded, and still is superadding, the influence of his living and life-imparting spirit. If, therefore, man convert the record of his mercies into a dead letter, and an unmeaning sound, it is not because God is far off, or because his arm is shortened, but because of the hardness of heart of them that see and perceive not, that hear and do not understand.

To prevent this hardness of heart from incapacitating the mind for receiving the appointed mercies of God, is the great task which maternal love has to perform; and great shall be the reward of the parent, whose son can bear to her faithfulness in that high calling, as honourable a testimony as that which Pestalozzi has borne to the influence of his mother upon his infant mind.

"True religion," he says, "is that of the heart; faith in the mother, and in her feelings, engenders faith in God. It is in the God of my mother that I believe; in the God of her heart, and of my heart: I know of no other God than that of the heart. The god of my brain is a bubble of my brain, an idol, in whose worship I defile myself; it is in the God of my heart that I believe, it is he that gives dignity and holiness to my nature, it is he in whose love I am regenerated and restored. Oh my mother! in thy commands didst thou teach me of God, and in my obedience I saw Him; when I remember thee, I remember Him. It is that love which my mother planted in my heart, which leads me to sympathize with the mother in her solicitude for the welfare of her offspring, and causes me, for the sake of God and in his name, to love and cherish every child of man.

Oh mother! without love to thee there is no love to God. Duty and the highest good are one; forgetting the mother is forgetting God, is casting off

mankind; is living, like a roaring lion, for self, in self-sufficiency, in enmity against the species, with a soul in whom no parental, no filial affection dwells, and whose obedience, not sanctified by the Divine Spirit, is a mere pharisaical observance.

"The child that loves his mother, will love his God! Mother and obedience, God and duty; the will of God, and nobility of soul, are identified in my mind. I live no longer for myself; I lose myself in the love of my brethren, the children of my God. I live to Him, who in His parental arms has raised me above the dust of the earth to His eternal love. The more I love Him, the Eternal, the more I love his commandments; the more I cleave to Him, the more I lose myself and become His, the more is my being filled with the fulness of His perfect nature, and the more do I feel in harmony with myself and with my species. The more I love and obey Him, the more do I hear His voice speaking to me from all sides, saying: "Fear not, I am thy God; I will not forsake thee; follow my commandments; my will is thy salvation." And the more I love, obey, thank, and trust the Eternal, the better do I know Him, who is, and was, and shall be for ever, the great Author of my being, He who has no need of me, and yet loves me with the tenderest love.

"I have known the Eternal within my own bosom; I have seen the ways of the Lord; in the dust I have read the decrees of His omnipotence, in my heart I have listened to the voice of his love. I know in whom I believe. My confidence in God is unlimited; for by the knowledge of myself, I have been led to an insight into the laws of the spiritual world. The idea of the Eternal is an infinite idea, and with infinite faith I hope for life everlasting. This hope is strengthened and increased in the same measure as my love for Him; the more I trust in Him, the more I thank and obey Him, the more am I confirmed in the faith in His eternal goodness and mercy, and in the assurance for myself of a blessed immortality."

So far Pestalozzi. His letter on religious education, from which the above extract is taken, closes the work "How Gertrude Teaches her Little Ones," and that work itself closes the series of Pestalozzi's writings, so far as they come within the plan of the present volume. The few publications connected with our subject, which appeared subsequently under Pestalozzi's name, are, as we have already hinted, the productions of his school, rather than those of his own mind; and have therefore no claim to our notice on the present occasion, except inasmuch as they might tend to throw light upon the practical part of the method. For this purpose, however, they are, from their exclusively theoretical

character, totally unfitted; and whatever value therefore we may, in our private judgment, attach to their contents, we do not feel the slightest temptation either to edify ourselves, by speaking in the "unknown tongue" of German metaphysics, or to subject truths, which we hold dear and sacred, to the "fudge" of critics, who recognize no ideas but those of which samples are to be found in their "stock in trade," and reject the loftier thoughts of minds more enlarged,

"Like mere abstractions, empty sounds, to which
We join no feeling, and attach no form."

The task which we had proposed to ourselves being thus accomplished, all that we have now to do, is to take leave of our readers; and as we have a great disrelish to the affectation of a concluding apology, or a final exhortation, we think it best to sum up our closing address in the simple farewell of the Roman bard:

*"Vive, vale: si quid novisti rectius istis,
Candidus imperti; si non, his utere mecum."*

THE END.

By the same Author.

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